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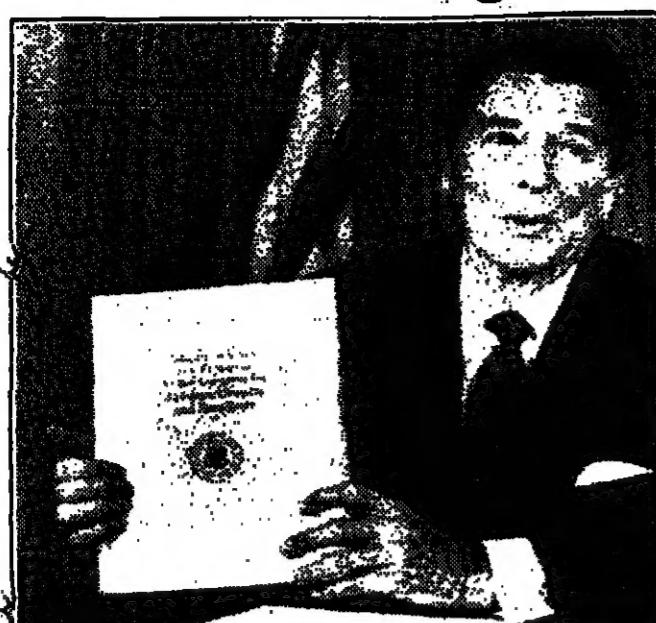
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ZURICH, THURSDAY, MAY 30, 1985

Algeria	4,000	Des. broad.	15,800	Norway	7,000	4,000
Austria	10,500	Indy.	150,000	Portugal	3,000	10,500
Belarus	6,000	Jordan	450	Portugal	90	6,000
Belgium	45,000	Kenya	50,000	Qatar	6,500	45,000
Canada	1,200	Kuwait	500	Ras. of Isfand	100	1,200
Congo	1,000	Lebanon	1,000	Ras. of Isfand	100	1,000
Denmark	8,000	Malta	1,000	Ras. of Isfand	100	8,000
Egypt	100	Malta	1,000	Ras. of Isfand	100	100
Finland	7,000	Malta	1,000	Ras. of Isfand	100	7,000
France	4,000	Malta	1,000	Ras. of Isfand	100	4,000
Germany	2,000	Malta	1,000	Ras. of Isfand	100	2,000
Greece	1,000	Malta	1,000	Ras. of Isfand	100	1,000
Iceland	100	Malta	1,000	Ras. of Isfand	100	100
Ireland	1,000	Malta	1,000	Ras. of Isfand	100	1,000
Italy	2,000	Malta	1,000	Ras. of Isfand	100	2,000
Japan	100	Malta	1,000	Ras. of Isfand	100	100
Lebanon	2,750	U.S. Ind. (Ind.)	30,000	Ras. of Isfand	100	2,750
Niger	100	U.S. Ind. (Ind.)	30,000	Ras. of Isfand	100	100
Yugoslavia	200	U.S. Ind. (Ind.)	30,000	Ras. of Isfand	100	200

ESTABLISHED 1887

Reagan Appeals for Support In Overhauling Tax System



President Ronald Reagan with his tax plan.

By David E. Rosenbaum

New York Times Service

WASHINGTON — President Ronald Reagan, in a nationwide television address, has appealed to Americans to support the transformation of an "un-American" income tax system into one that is "clear, simple and fair for all."

Opening his drive for overhauling the federal tax code, one of the most ambitious undertakings of his presidency, Mr. Reagan declared Tuesday night that his plan would

reduce the tax burdens on the working people of this country" and stop "the special interest raids of the few."

He was to make the details of his plan public Wednesday and send it to Congress.

It was clear from a White House summary of the plan that if the proposal were enacted substantially intact, it would amount to the most thorough revision of the tax system since World War II, when wage withholding began and most Americans became subject to income taxation for the first time.

According to the summary, under Mr. Reagan's proposals, 79 percent of Americans would pay either a smaller tax bill or about the same as they pay now.

Overall, individuals would owe 7 percent less than they do now, and corporations would owe 9 percent more.

President Reagan proposed reducing the current 14 tax brackets to three: 15 percent, 25 percent and 35 percent. On joint returns, taxpayers in a family of four would pay nothing on the first \$12,000 of taxable income, 15 percent on the amount between \$12,000 and \$29,000, 25 percent on the amount between \$29,000 and \$70,000, and 35 percent on taxable income above \$70,000.

The top tax rate would thus be reduced to 35 percent from 50 percent.

Representative Dan Rostenkowski of Illinois, the Democratic chairman of the House Ways and Means Committee, responded on television immediately after Mr. Reagan's address and generally supported his tax principles.

Mr. Rostenkowski said, however, that "Democrats will not give up the president's reform plan a rubber stamp. If anything, it's a starting point."

Two leading congressional supporters of tax simplification said they would oppose Mr. Reagan's plan.

Representative Richard A. Gephardt of Missouri, co-sponsor of a Democratic tax-simplification plan, denounced the proposal as a "tax retreat."

Representative Jack Kemp of New York, co-sponsor of a Republican tax overhaul bill, said the top tax rate of 35 percent was too high.

"I cannot support the plan as long as the top income tax rate remains at 35 percent."

Mr. Kemp said: "Keeping the

(Continued on Page 3, Col. 4)

Plan Reflects His Vision Of a Restructured Society

By Peter T. Kilborn

New York Times Service

WASHINGTON — Like all presidents, Ronald Reagan wants to use the federal income tax to rearrange the economy and the structure of society to suit his own vision. Beyond all else, that was the message of his speech Tuesday night.

Unlike the piecemeal changes that others pursued, such as Jimmy Carter's unsuccessful 1978 assault on the business lunch, or John F. Kennedy's sponsorship of the investment tax credit to stimulate business, President Reagan would revamp, wholesale, the income tax system.

His plan seeks a system that will foster smaller government, free

NEWS ANALYSIS

markets, entrepreneurship, the accumulation of wealth and the family.

Even if the essentials of the proposal are adopted by Congress, analysts are widely divided over the effects on the economy and society. The White House believes the plan will inspire a new burst of economic growth, as taxpayers plow more of their higher, after-tax incomes into savings and investments.

But many economists note that consumers spent far more than they saved after the president last cut taxes in 1981. They also note that industry, which would assume a greater share of the national tax burden under the president's proposal, saves a far greater proportion of its earnings than consumers.

Mr. Reagan has set a propi-

TAX PLAN INSIDE

■ U.S. tax experts say Reagan's plan is less than a sweeping reform. Page 3.

■ A chart explains how the proposal evolved. Page 3.

■ The plan represents a significant increase in the corporate tax burden, business leaders say. Page 13.

tions moment. The current tax system is universally condemned as confusing, unfair, economically counterproductive and such a monument to special interests that tax evasion has become a national pastime among the millions who feel cheated. Partisans do not disagree over whether to change the system but how.

No one, not even Treasury Secretary James A. Baker 3d, and his deputy, Richard G. Darman, who approved the plan, can offer any convincing evidence that all the thousands of elements of the plan will assure the healthier economy or the more equitable society that the president has set as his goal.

It is in the House of Representatives that Mr. Reagan faces his toughest going. By granting detailed concessions to various interest groups, he and his aides may have pre-empted the deal-making prerogatives of Congress and thus hurt the prospects for the overhaul. Of the various components of

(Continued on Page 3, Col. 1)

the plan, the current tax system is universally condemned as confusing, unfair, economically counterproductive and such a monument to special interests that tax evasion has become a national pastime among the millions who feel cheated. Partisans do not disagree over whether to change the system but how.

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(Continued on Page 3, Col. 4)

Boeing Wins Orders Totaling \$1.5 Billion

New York Times Service

NEW YORK — Boeing Co. of the United States has won aircraft orders totaling \$1.5 billion.

The company has agreed to sell about \$1 billion worth of planes to a leasing company. Boeing was also chosen by Australia's state-owned Trans-Australia Airlines for contracts ranging from five to 12 years.

Carriers that have leased planes from the company, he said, include Britannia Airways, Dan-Air and Orion Airways, which are British carriers that run both charter and scheduled service. Financing for the planes, Mr. Gonda added, would come from internal funds as well as public and private borrowing.

The order includes eleven 737-300s, which carry 141 passengers; three 767-200 ERs, which carry about 216 passengers; four 767-200s, which carry about 266 passengers, and three 757-200s, which carry 178 to 186 passengers. All the planes are more fuel-efficient and more technologically advanced than current models.

International Lease, which said it is expected to complete final contracts with Boeing by early summer, went public in 1983. It had sales of \$61 million and profits of \$13.4 million last year.

The company also said that it had the option to increase the order to 32 planes valued at \$1.4 billion.

Louis Gonda, the executive vice president of the leasing company, said the company had ordered 10 737-300 aircraft in 1983 and that the planes had been so successful with its airline customers that it had decided to place another order.

INSIDE

■ The ex-wife of Claus von Bülow said he told her of watching his wife go into a coma. Page 3.

SCIENCE

■ Vietnam's ecology is severely threatened by the legacy of war, a study shows. Page 5.

BUSINESS/FINANCE

■ Fiat's net profits rose 148 percent for 1984. Page 15.

■ Prices for heavy crude in OPEC are too high, Saudi Arabia's oil minister said. Page 15.

SPECIAL REPORT

■ Aerospace's "big-tech" tension: Will allied ventures survive the politics? Part I of a two-part special report. Page 7.

By the Associated Press

LUANDA, Angola — The captured leader of a South African commando team says his unit entered Angolan to blow up installations of the Cabinda Gulf Oil Co.

The South African Defense Force denied Wednesday that the operation had been aimed at sabotage and suggested that Angolans had forced a confession from Captain du Toit.

Angola's government gets 90 percent of its foreign exchange from the oil operations in Cabinda province, where Cabinda Gulf, jointly owned by the Gulf Corp. of the United States and Angola's state oil company, Sonangol, is the largest operator.

The U.S. State Department has said it voiced "deep displeasure" to the South African government over the incursion, and U.S. officials have said it could have sabotaged

not only the U.S.-operated oil in-

stallation but also a peace initiative

involving South Africa and Angola sponsored by the United States.

[The South African Defense Force denied Wednesday that the operation had been aimed at sabotage and suggested that Angolans had forced a confession from Captain du Toit. Reuters reported from Cape Town. It said that Defense Minister Magnus Malan had already made clear that "the Marxists are well known for their coercive methods of obtaining so-called admissions from persons under their control in order to accomplish their propaganda goals."]

Foreign Minister R.F. Botha of

South Africa said after Angola announced Captain du Toit's capture

last week that the soldiers had been looking for members of two rebel groups, the South-West Africa People's Organization and the African National Congress.

Asked Tuesday if Mr. Botha had been correct, Captain du Toit replied: "No. We were not looking for ANC or SWAPO. We were attacking Gulf Oil. But by that action we hoped to reduce Angolan government aid to those groups."

[A spokesman for the African National Congress denied having any military bases in Angola and

foreign bases in the country.

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Soviet Insists on a U.S. Shift in SDI Plans

United Press International
GENEVA — The Soviet Union, on the eve of a new round of super-power arms talks Thursday, flatly rejected cuts in nuclear weapons unless Washington abandons research on the Strategic Defense Initiative.

The chief Soviet arms delegate, Viktor P. Karpov, told reporters Wednesday for the second round of talks, said progress depended on "necessary adjustments" in the U.S. position.

Mr. Karpov made clear that his orders remained unchanged from the first round March 12 to April 23. The Soviet position is that cuts in existing nuclear weapons must be linked to a ban on anti-missile space systems.

The chief U.S. delegate, Max M. Kampelman, similarly stated on returning to Geneva 12 hours earlier that his instructions from President Ronald Reagan "are not basically in any way altered."

Reagan May Delay SALT-2 Decision

Washington Post Service

WASHINGTON — President Ronald Reagan is expected to inform Congress soon that he has postponed until later this year a decision on whether the United States will exceed limits on nuclear missiles in the unratified SALT-2 treaty, administration officials said Tuesday.

Mr. Reagan is required by law to submit a report to Congress by Saturday on plans for complying with the treaty. One official said the report would discuss options but not include a decision whether the United States intended to exceed the treaty limits on missiles.

Another official said Mr. Reagan was still considering what to put in the report to Congress. This official said the report would probably be delayed beyond the June 1 deadline, in part to allow time for a National Security Council meeting on the decision and in part because Congress would not be in session.

The president repeatedly has declared that research on the initiative will continue, although any eventual introduction of such systems could be discussed.

U.S. arms control officials argued that Moscow, besides having its own space arms program, agreed long ago that it was impossible to verify a ban on research as such.

The talks involve separate but related subgroups on long- and medium-range nuclear weapons as well as arms in space.

Given the evidently unchanged positions, diplomats close to the talks said, it is unlikely that the deadlock can be broken at the second round. This round of talks is expected to last about two months.

Mr. Karpov said in his arrival statement that the American program involved "space strike arms." He said it increased the risk of nuclear war and reduced the chances of reaching agreement.

Only the renunciation by Washington of "research, testing and deployment" of such systems can "open the way to radical reductions in nuclear arms," Mr. Karpov said.

"We would like to hope that the



The Associated Press

Survivors of the tidal wave in Bangladesh in a refugee center.

Following Tidal Wave, Bangladesh Braces for Possible Second Cyclone

Reuters

DHAKA, Bangladesh — Bangladesh, reeling from a cyclone and tidal wave that killed thousands, braced Wednesday for a possible second cyclone.

The Dhaka Weather Bureau said a cyclone was about 900 miles (1440 kilometers) southwest of Bangladesh in the Bay of Bengal. It was moving north and could hit the coast in the next few days unless it dissipated, officials said.

They also said two tropical disturbances that could develop into cyclones in the next two days were heading toward Bangladesh from the Bay of Bengal.

A tidal wave 45 feet (about 14 meters) high swamped seven islands in the Ganges-Brahmaputra delta Friday. In addition to the deaths, 250,000 people were believed to have lost their homes.

Officials of foreign aid agencies who inspected the area for the first

time Wednesday said damage was much less than some reports had suggested.

Rescuers were still searching for about 12,000 people reported by residents to have been swept away.

Dhaka newspapers said many of those affected by the tidal wave ignored warnings broadcast on state radio. They said poor roads and transport facilities discouraged villagers from fleeing.

About 250,000 people in the districts of Vonnilla and Sylhet in eastern Bangladesh had moved to higher ground in the past 24 hours after three rivers overflowed.

Lieutenant General Hussain Mohammed Ershad, the country's martial law leader, said Tuesday he expected the final death toll could go as high as 10,000. He has appealed for millions of dollars in international aid.

Bangladesh has received com-

mitments for \$1.6 million dollars. Prime Minister Rajiv Gandhi of India was among the first international leaders to respond. He said he would send helicopters, food and other help if needed.

The U.S. government has pledged \$252,000, Britain \$62,000, the European Commission \$375,000, the United Nations \$525,000 and the West German Red Cross \$100,000.

"This is very straightforward," said an administration official for whom the White House requested anonymity. "Our goals are modest."

In an interview just before his



Reuters
KOREAN TALKS SUCCEED — Li Chong Ryul, right, a North Korean negotiator, and his South Korean counterpart, Lee Young Dok, walked in Seoul Wednesday after agreeing to allow visits between separated family members.

Agca Trial Defendant Says He Held Gun in Safekeeping

Reuters

ROME — Omer Bagci, a Turkish accused in a plot to kill Pope John Paul II, said Wednesday he kept a weapon for the man who shot the pontiff "because I was a terrorist and I was afraid."

Mr. Bagci, 39, told a Rome court he assumed Mehmet Ali Agca had handed him the Browning 9mm pistol in 1981 "as part of some plan," but he said he knew nothing about a plot to kill the pope.

In answering questions from the court president, Severino Santapicchia, Mr. Bagci twice contradicted evidence he had given during investigations into the alleged plot to kill the pope in St. Peter's Square on May 13, 1981.

Neither Mr. Agca nor Musa Serdar Celebi, another Turk on trial, were in court as Mr. Bagci testified, but a Bulgarian defendant, Sergei Ivanov Antonov, was present. Five Turks and three Bulgarians are on trial.

Mr. Bagci said Mr. Agca handed

him a package containing the pistol in April 1981, at Olten, Switzerland, where Mr. Bagci lived and organized a Turkish immigrants' organization.

"I was 90-percent certain it was a weapon, but it was wrapped up in bags, and I did not open the package," he said. In earlier evidence he had admitted opening the package, Mr. Santapicchia told the court.

The judge asked Mr. Bagci why he did not hand over the weapon to Swiss police when he knew Mr. Agca had been condemned to death in Turkey for the murder of a Turkish journalist, Abdi Ipekci, in 1979 and had declared he wanted to kill the pope.

Mr. Bagci replied: "If I had given up the weapon he would have taken reprisals against me."

Asked by Mr. Santapicchia why he chose to keep the pistol and return it to Mr. Agca in Milan on May 9, 1981, he said: "I do not know, it was a thing of the moment."

Contradicting statements he made to the investigating magistrate, Ilario Martella, Mr. Bagci denied he sent money to Mr. Celebi's account in West Germany to buy a plot of land in Istanbul.

Prague Aide to Visit China

The Associated Press

BELING — China announced Wednesday that Svatopluk Potoc, a deputy prime minister of Czechoslovakia, would visit here early in June. He will be the highest Prague official to visit Beijing since 1959.

The president repeatedly has declared that research on the initiative will continue, although any eventual introduction of such systems could be discussed.

U.S. arms control officials argued that Moscow, besides having its own space arms program, agreed long ago that it was impossible to verify a ban on research as such.

His instructions, Mr. Kampelman said, are "to achieve radical reductions in offensive nuclear weapons and to create a more stable strategic environment on earth and in space."

"We were perhaps somewhat disappointed at the slow pace and I hope that we can alleviate and quicken that pace during the second round. This round of talks is expected to last about two months."

In Washington, the assistant secretary of state for European affairs, Richard R. Burt, said Tuesday that the United States has not seen evidence that Moscow "is really prepared to negotiate" in Geneva.

Mr. Burt accused the Soviet Union of a "strategy of holding arms control negotiations hostage to a unilateral concession" by the United States on the initiative.



The Associated Press
Viktor P. Karpov making his statement.

WORLD BRIEFS

Three Mile Island N-Plant to Reopen

WASHINGTON (AP) — The U.S. Nuclear Regulatory Commission voted, 4-1, Wednesday to allow the reopening of the Three Mile Island nuclear power plant in Pennsylvania, six years after the worst nuclear accident ever in the United States.

The vote allows General Public Utilities Corp., the owner of the plant, to restart its undamaged Unit 1 reactor. The Unit 2 reactor suffered a partial meltdown in the March 19, 1979, accident at Middletown, Pennsylvania, and is now being cleaned up at a cost of \$1 billion. Opponents of plant reopening said they would file a petition in the Court of Appeals in Philadelphia asking for a reversal of the commission's restart decision.

The commission's action rescinds a pair of 1979 orders that have kept the plant shut down. The commission held 150 days of hearings into whether the undamaged reactor could be operated safely.

U.S., Soviet Officials to Meet in Paris

WASHINGTON (UPI) — A top State Department official will meet Thursday with his Soviet counterpart to discuss southern Africa, department officials said Wednesday. A session on Afghanistan is expected next month.

Chester A. Crocker, the assistant secretary of state for African affairs, will meet Vladimír Vacek, head of the Soviet Foreign Ministry's department for eastern and southern African affairs, in Paris, the officials said.

The meeting is the outgrowth of President Ronald Reagan's call last September, in an address at the United Nations, for "periodic consultations at policy level about regional problems." The first meeting was held in Vienna in February and concerned the Middle East. A State Department official said the Russians have in effect agreed to meet on Afghanistan, but "the arrangements are still being made." He said the meeting is expected next month.

Schmidt Warns Bonn on U.S. Project

BONN (Reuters) — Helmut Schmidt, the former West German chancellor, has warned his successor, Helmut Kohl, against taking part in U.S. research for a space missile shield, urging him instead to cooperate with France in a technology program.

In a letter made public by sources close to him, Mr. Schmidt said that Bonn's joining in the Strategic Defense Initiative project, the former name for the U.S. effort to develop a space defense against missile attack, could lead to serious political problems for West Germany and, further, was unlikely to bring technological benefits.

In his first major statement since stepping down as chancellor in 1982, Mr. Schmidt said that France's proposal for a high-technology defense offered far better prospects for Western Europe than the U.S. plan.

Government Raises Prices in Israel

TEL AVIV (AP) — Prices for everything from bread to gasoline rose Tuesday by 14 to 41 percent as part of the government's economic program to control inflation.

Long lines of motorists formed at gasoline stations before midnight Monday as rumors spread of the impending increases. Israel Army Radio reported that Israelis crowded several late-night supermarkets to stock up before the increases went into effect.

The price of many services went up 14 percent. Prices of basic food subsidized by the government increased 25 percent. Gasoline costs 41 percent more. The new prices will remain in effect until the end of July. The increases were designed to cut government spending by slashing its subsidies budget and to absorb spare cash held by the public.

Sinn Fein Member Will Chair Council

OMAGH, Northern Ireland (AP) — Protestants shouted abuse and some spectators walked out when a member of Sinn Fein, the political arm of the Irish Republican Army, was elected chairman of the Omagh District Council.

The Tuesday night session was the first council meeting since Northern Ireland's municipal elections May 15, when Sinn Fein won 59 of the 366 council seats in 26 local councils throughout the British province.

Sinn Fein won six seats on the 21-member council at Omagh, 55 miles (90 kilometers) west of Belfast, making it the largest party on the council. Counsellor Seamus Kerr was elected council chairman by a vote of 7-6. Of the remaining eight council members, seven abstained and one was absent.

For the Record

Iraq said its planes attacked Tehran and Tabriz in northwestern Iran on Wednesday while a West German cargo ship in the Gulf was struck by a rocket in an apparent Iranian raid.

Britain, facing a flood of Tamil refugees from Sri Lanka, moved Wednesday to curb the numbers by requiring visas of Sri Lankans planning to visit.

Three persons in Karachi, Pakistan, were wounded when police fired on a crowd looting and burning shops Tuesday in ethnic unrest among Pashtun migrant workers, witnesses said Wednesday.

Sikh extremists shot to death three Hindus in Punjab state as the Indian government sought to tighten security before the June 3 anniversary of the storming of the Golden Temple, police said Wednesday.

Swedish unions and employers reached agreement Wednesday for a wage increase of 3.6 percent for 350,000 white-collar workers in the private sector.

Clarification

An account in Monday's paper on reports of the massacre of hundreds of Palestinians by Shiite militiamen in Beirut was based on several weekend dispatches and should have appeared under a London dateline.

Gemayel Palace Is Shelled

(Continued from Page 1)

round of fighting began May 19 to at least 408 dead and 1,803 wounded.

Israeli Negotiations Reported

In other developments, wire services reported:

Israel is negotiating with a radical Palestinian guerrilla group for the return of an Israeli soldier missing in action in Lebanon, offering in exchange an unspecified number of Palestinians detained in Israeli prisons. Western diplomats said Wednesday in Athens.

Mr. Craxi said he had told Mr. Gorbachev, "We are in favor of negotiations at different speeds on the three topics and we think the European one," a reference to intermediate-range missiles, "can more easily give concrete results."

Mr. Craxi, the first leader of a North Atlantic Treaty Organization country to have formal talks with Mr. Gorbachev, said he was cautious against allowing the talks to break down through "hard positions." He said that he reminded Mr. Gorbachev that the United States had said it was ready to negotiate on all three issues.

In its account of the talks, the Soviet news agency Tass said that Mr. Gorbachev pledged the Soviet Union's determination to find solutions in all three areas, adding, "It is especially important to effectively block the militarization of space."

Mr. Craxi described the talks as open and even cordial. He said he told Mr. Gorbachev that the European missile issue was "just a question of counting up the missiles."

Asked by reporters if this included French and British weapons, he replied: "Well, they're not deployed on the moon."

This suggested a shift from the NATO position that British and French missiles should not be counted in the balance of Soviet SS-20 missiles and U.S. cruise and ground-launched missiles.

The disclosure of these negotiations, through the Geneva-based International Committee of the Red Cross, came as controversy in Israel continued over the exchange

this month of 1,150 Palestinians and others held in Israeli prisons in exchange for three Israelis captured by a pro-Syrian Palestinian guerrilla group.

In Jerusalem, the Knesset voted, 65-6 with 16 abstentions, to accept Defense Minister Yitzhak Rabin's statement that Israel had no choice but to accept the terms of the earlier exchange, which included the release of convicted killers.

Only two parliamentarians from government parties abstained. Five members of the ultra-nationalist Tehiya party and the militant anti-Arab, Rabbi Meir Kahane, voted against.

Israel radio said the Israeli Army completed its withdrawal Wednesday from most of the central and western sectors of the security zone in Lebanon, leaving a large force still in the east. (UPI, Reuters, AP)

South African Soldier Says Oil Depot Was His Target

(Continued from Page 1)

rebel South African claims that on commando group was spying on its camps. Agence France-Presse reported from Lusaka, Zambia.

Captain du Toit said he had been shot in the neck, shoulder and arm when Angolan soldiers attacked his unit near the refinery at Malongo in Cabinda, killing two other soldiers.

He said the commando unit, whose strength he did not reveal, was surprised by a patrol on May 21, and he ordered the unit to separate into groups of three. His group was hit while trying to escape across a clearing, he said.

The others "must have made it back to our rubber raft and back to the mother ship" off the Cabinda coast, Captain du Toit said.

In the South African

SCIENCE

Vietnam Threatened by Extensive DeforestationBy Thomas W. Netter
New York Times Service**GLAND**, Switzerland — Vietnam faces an environmental catastrophe brought on by three decades of warfare and continuing abuse of the land by a rapidly growing population, an international conservation group has concluded in a new study.

Concerned about the threat that a degrading landscape poses to food production and economic progress, the Vietnamese government has joined forces with independent international conservation agencies to fight the environmental destruction.

Current trends could leave the nation nearly barren of forest by

the year 2000, unleashing a cycle of severe flooding of industrial and agricultural lands and causing food and energy shortages, according to the study by the International Union for Conservation of Nature and Natural Resources, which is based in this village 20 miles (32 kilometers) northeast of Geneva.

The study traces the destruction to the constant conflicts in Vietnam since 1945, in wars first with France and then with the United States that ended when Communist forces overran South Vietnam in 1975.

"During these wars, the population and the environment of Vietnam suffered terribly and the countryside was exposed to such levels of deliberate destruction that it gave rise to a new word in the English language: 'ecocide,'" said Dr. John MacKinnon, a consultant to the conservation group who made the study in a three-month visit to Vietnam that ended in January.

Malaria, caused by a one-celled parasite, has been eradicated from the United States. It remains the leading killer in the Third World, where there are an estimated 150 million new cases a year. More than a million African children die from the disease each year.

With Only One Eye, Ants Get Lost**ZURICH** (NYT) — Tests have shown that an ant with one eye covered cannot memorize a route in terms of landmarks seen through the other. And it cannot find its way when the covered eye is exposed and the other one covered. However, when its navigation is based on polarization of light in the sky, such "interocular transfer" of information does enable it to keep track of its route.

Tests conducted on long-legged Saharan desert ants at the University of Zurich in Switzerland discovered that an ant can find its way back to its underground nest from a food source as much as 65 feet (20 meters) away, using only the polarization of light in the sky as a compass. Such polarization, or vibrational orientation of light waves, when seen at right angles to the direction of the sun, indicates the sun's position in the sky.

According to the authors of the report, in *Nature*, ants may be unable to transfer landmark memory from the visual system of one eye to that of the other because the insects depend on binocular vision to store such information.**Ice Shelf's Role in Sea Levels Studied****NEW YORK** (NYT) — The world's largest shelf of continental ice, roughly equal in area to France, is suspected sometimes to disintegrate, unplugging the flow of ice from West Antarctica and causing worldwide sea levels to rise about 30 feet (9 meters).

As part of an international study of the Ross Ice Shelf, holes have been melted through the 1,300-foot apron to the underlying ocean, at a site 300 miles (490 kilometers) from where the shelf disintegrates into icebergs. The first hole, produced by a "flame drill," made it possible to examine the underlying ocean and sea floor for clues on the history of the shelf.

In 1978, a Soviet device melted a new hole, and core samples of the ice were extracted. The top 1,345 feet of ice was continental, having slipped off the continent and become waterborne five centuries ago. The bottom 33 feet, however, was frozen seawater, indicating that the southern part of the Ross Ice Shelf is gradually gaining ice from below. Found in this sea ice were the remains of microscopic diatoms dependent on sunlight, which must originally have lived in the open ocean.

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Officials of the state's wine industry say a quarantine — similar to the one used in California's Mediterranean fruit fly troubles several years ago — may have to be imposed. Destruction from the phylloxera takes between two and five years.

U.S. sources, the report says the war cost Vietnam 26 million cubic yards of commercial timber and rendered useless more than 365,000 acres (150,000 hectares) of rubber plantations, either from bombing, bulldozing or spraying of herbicides.

The long-term effects are, in fact, far more serious," the report said. "For more than 12 years after the spraying, the forests have never recovered, fisheries remain reduced in their variety and productivity even in coastal waters, wildlife has not returned, cropland productivity is still below former levels and there is a great increase in toxicological disease and cancer."

"The colossal damage from 25 million bomb craters, which caused displacement of a billion cubic yards of earth, results in health hazards and disrupts water flow," it added, "and the particles of shrapnel embedded in living trees render their wood less valuable."

Officials of the wildlife fund said U.S. statistics indicated that more than 19 million gallons of herbicides, known as Agents Orange, White and Blue, were dumped on croplands and forests. The herbicides contained dioxins that remain at toxic levels today. The report cited Vietnamese figures that more than four million acres are affected.

Further damage was caused, the report says, by the clearing of large tracts of forest, agricultural land and "even villages and cemeteries" with giant bulldozers used by U.S. troops searching for guerrillas in the south, as well as by the burning of large forest areas by napalm bombing.

"But this was made worse by war," he said. "There are toxic substances still in the soil in the south, forest area was lost, communications disrupted, industry knocked right back. So they're really basic farmers again with hand tools and hard work, trying to get the country back together again."

The report also contends that U.S. forces destroyed dikes and other "agricultural productive systems," created landslides in steep areas by bombing and by spraying an unidentified acid on limestone, attacked wildlife such as elephants and oxen with guns, bombs and napalm to prevent their use for transportation, and devastated large areas of land with "saturation bombing."

About 21 percent of Vietnam's 120,401 square miles (311,620 square kilometers) of land remain unsuitable for agriculture and 36 percent

of the country is now considered wasteland, "it says.

Food is of primary concern to the report's authors, who say the population of Vietnam is increasing by 2.7 percent a year and now, at 60 million people, is double what it was 40 years ago and among the densest in the world for an agricultural country.

"The country will no longer be able to feed its population and will have little else to sell in return for food on an international market also facing food shortages," the report said. "Cities will be overpopulated and heavily polluted. Internal strife will be precipitated and natural security weakened."

Citing figures provided both by the Vietnamese government and

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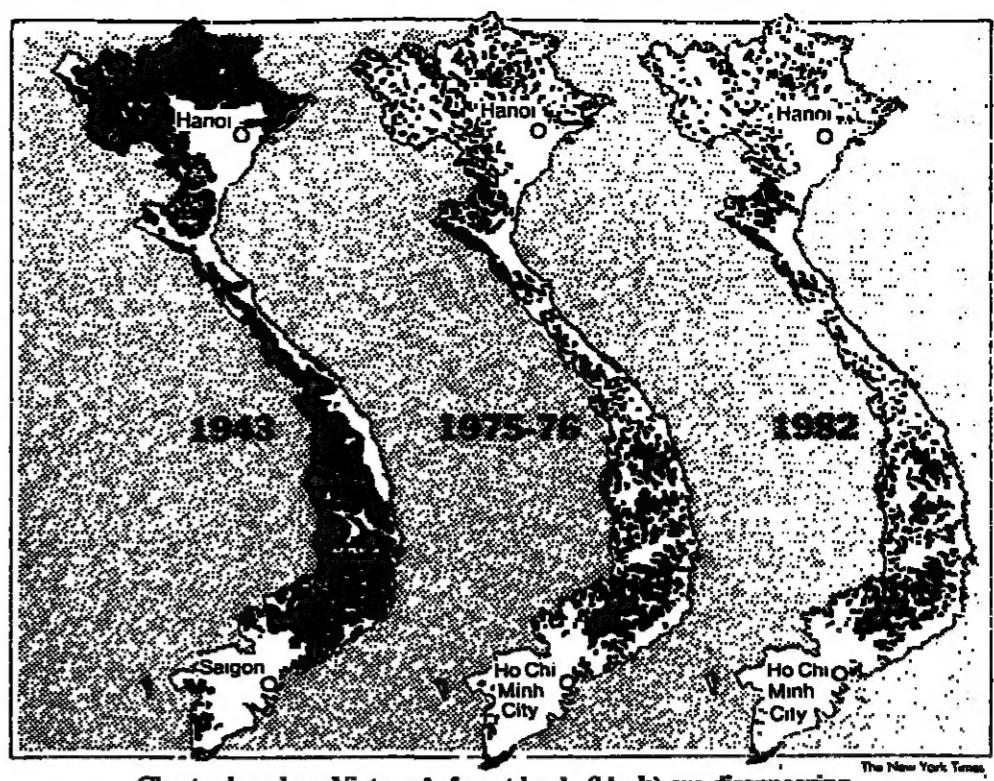
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Charts show how Vietnam's forest lands (black) are disappearing.

IN BRIEF**Malaria Vaccine Ready for Testing****WASHINGTON** (AP) — A prototype malaria vaccine that works on mice and rabbits has been developed and could be tested on humans as early as this summer.

According to W. Ripley Ballou, one of a team at the Walter Reed Army Institute of Research here who developed the vaccine through genetic engineering, the prototype could lead to the production of a vaccine for general release in three to five years. The quest for a malaria vaccine developed by conventional means has been blocked so far because there was no way to grow the parasite in a synthetic vaccine.

Malaria, caused by a one-celled parasite, has been eradicated from the United States. It remains the leading killer in the Third World, where there are an estimated 150 million new cases a year. More than a million African children die from the disease each year.

With Only One Eye, Ants Get Lost**ZURICH** (NYT) — Tests have shown that an ant with one eye covered cannot memorize a route in terms of landmarks seen through the other. And it cannot find its way when the covered eye is exposed and the other one covered. However, when its navigation is based on polarization of light in the sky, such "interocular transfer" of information does enable it to keep track of its route.

Tests conducted on long-legged Saharan desert ants at the University of Zurich in Switzerland discovered that an ant can find its way back to its underground nest from a food source as much as 65 feet (20 meters) away, using only the polarization of light in the sky as a compass. Such polarization, or vibrational orientation of light waves, when seen at right angles to the direction of the sun, indicates the sun's position in the sky.

According to the authors of the report, in *Nature*, ants may be unable to transfer landmark memory from the visual system of one eye to that of the other because the insects depend on binocular vision to store such information.**Ice Shelf's Role in Sea Levels Studied****NEW YORK** (NYT) — The world's largest shelf of continental ice, roughly equal in area to France, is suspected sometimes to disintegrate, unplugging the flow of ice from West Antarctica and causing worldwide sea levels to rise about 30 feet (9 meters).

As part of an international study of the Ross Ice Shelf, holes have been melted through the 1,300-foot apron to the underlying ocean, at a site 300 miles (490 kilometers) from where the shelf disintegrates into icebergs. The first hole, produced by a "flame drill," made it possible to examine the underlying ocean and sea floor for clues on the history of the shelf.

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INTERNATIONAL HERALD TRIBUNE

Published With The New York Times and The Washington Post

Duped in Southern Africa

Barely a year ago South Africa agreed, in a deal brokered by the United States, to remove all its raiding forces from Angola in return for the closing by Angola of the bases from which SWAPO guerrillas operated in Namibia. Now, with some of its forces still in Angola, it is revealed to have sent a saboteur squad hundreds of miles farther north to attack an American-run oil installation in Cabinda province. The squad, carrying incendiary shells, was intercepted 300 meters from the Gulf facility that earns Angola most of its foreign currency. An Angolan mission was reported in New York on that very day seeking expansion capital. Evidently the South Africans meant to spoil Angola's day in a spectacular way.

South Africa's policy is illuminated as by a midnight flare. It pummeled Angola into an agreement that much diminished the guerrilla challenge Pretoria faced in its illegal colony of Namibia, which in the fifth year of the Reagan administration, seems still remote from independence. The same agreement left the Angolan government facing a strong South African-sanctioned guerrilla challenge of its own. Then, having made the agreement, Pretoria kept on selectively mounting the same destabilization tactics it had promised to abandon.

The United States is left looking very foolish. A friendly government for which it had a great favor has duped it. Let us try to imagine

the anti-Communist nonsense that Pretoria would have pumped out if its commandos had secretly succeeded in blowing up Gulf Oil. The Reagan policy of "constructive engagement" — treating South Africa in a respectful fashion to gain its moderation in foreign policy and domestic policy alike — is embarrassed on the very ground where its greatest triumph had been proclaimed. Angola's Marxist government, meanwhile, has a new excuse to embrace the Cuban protectors whose removal is the administration's prime regional goal.

We were among those who a year ago felt cautiously hopeful about the prospects of American diplomacy in southern Africa. But things have not been going well. The other principal front where South Africa's policy of regional accommodation has been on display is in Mozambique. There rebels continue to assault the local government even as South African authorities insist that they do not sponsor and cannot control the foreign elements that help keep the resistance going.

This is the other face of apartheid. The system not only represses the black majority at home; it also gives the white minority the power and the arrogance to torment South Africa's neighbors. Others in the region need the abolition of apartheid scarcely less than do the people of South Africa.

— THE WASHINGTON POST.

Bigotry Cripples Sri Lanka

Solomon Bandaranaike is half-remembered as a lively, leftist prime minister of Ceylon, the teardrop-shaped island nation now called Sri Lanka. His story is worth retelling, for it helps in understanding why Sri Lanka is squandering its prosperity in a bitter civil war between the Sinhalese majority and the Tamil minority.

Mr. Bandaranaike belonged to a prominent Sinhalese Christian family with close ties to the British. His father helped found the Colombo Turf Club. When the son returned from Oxford in the 1930s he converted to Buddhism, adopted national dress and espoused leftist and nationalist causes. His party came to power in 1956, just as Ceylon was celebrating the 2,000th anniversary of Buddha's attainment of Nirvana. Riding with that fervor, he endorsed promoting Buddhism and making Sinhalese the new nation's official language. Language became the explosive question.

The Sinhalese, who make up three-fourths of the population, felt cheated of their share of good jobs and pay. They blamed the British for favoring the Tamils, a Hindu people with their own language. So the new prime minister approved a "Sinhala only" policy to handicap the more prosperous minority.

He also proposed allowing "reasonable use" of Tamil — and was condemned by Sinhalese radicals. Communal riots cost hundreds of

lives. In the Tamil north, the Sinhalese script was defaced; in the Buddhist south, monks organized angry sit-ins. The prime minister retreated, but not fast enough. On Sept. 25, 1959, he was murdered by a Buddhist priest.

The wheel has turned, but nothing has happened to end the estrangement between two people who have shared the island for centuries. President Junius Jayewardene is a conservative whose free market policies have doubled per capita income. But it is prosperity without peace. Some Tamils, resorting to insurgency, agitate for independence. The military budget has swollen tenfold in five years, and 600 people have been killed in six months. The government has turned to Israel for military advisers. Tamils have turned to India, where 50 million Tamils dominate a nearby state.

Mr. Jayewardene warns that he may impose martial law and rejects negotiations with Tamils who even hint at separation. Waylaid is the president's cautious offer of greater autonomy. Faced with a backlash from Sinhalese extremists, Mr. Jayewardene had to retreat. Nothing better can be expected from the opposition party, led, as it happens, by Prime Minister Bandaranaike's widow, Sirimavo.

Bigotry has defeated left and right. It is a fearful symmetry that beggars optimism.

— THE NEW YORK TIMES.

Another Immigration Bill

Major immigration reform legislation was reintroduced in Congress last week, and The New York Times promptly dubbed the proposal the "Simpson-Nobility bill." Earlier versions of the measure had been offered in the last two Congresses by the bipartisan, bicameral team of Senator Alan Simpson, a Wyoming Republican, and Representative Romano Mazzoli, a Kentucky Democratic Senator. Simpson is alone this year — temporarily, we hope — in offering the new proposal, a somewhat-modified version of the bill that has passed the Senate twice before.

Has Mr. Mazzoli deserted the cause? That is doubtful, but his party seems to be in disarray over how to proceed. House Judiciary Committee Chairman Peter Rodino has long been a leader in immigration legislation, and it is possible he wants to take the lead in the House this year. There is also a rumor that Representative Mazzoli, who voted to seat Republican candidate Rick McIntyre in the bitter dispute over the vote in the 8th District of Indiana, has been warned by other Democrats that they will seek revenge by blocking legislation that bears his name. This is a deplorable tactic, but it might explain the Kentuckian's reluctance to

become the prime sponsor of the new bill. In any event, House Democrats should get their act together in support of a proposal in this area of great national interest and importance.

Mr. Simpson's new bill makes some concessions to the business community, which objected to the record-keeping provisions of the earlier bills. It also pulls back on the generous amnesty offered before, by delaying implementation until a commission certifies that illegal immigration is in fact reasonably under control. In a concession to the Reagan administration, it sets a cap on what the federal government would have to pay to states, which will bear the heavy financial burden of providing services to newly legalized immigrants.

These changes in the bill should look in the support of the Chamber of Commerce and the administration, and may win a few votes among those who opposed the original, immediate amnesty. That is good strategy on Senator Simpson's part. But what about legislators who preferred the old bill with its more generous amnesty? They have an obligation to enter the debate if they want to be part of the solution. What is the Democrats' response?

— THE WASHINGTON POST.

Other Opinion

Just Waiting in the Middle East

The forces of moderation are on the retreat. Beirut is the scene of some of the bloodiest fighting of the 10-year civil war. In Kuwait, the country's ruler was fortunate to escape assassination. Iraq and Iran have resumed air and missile attacks on each other's capital cities. In Cairo, security forces closed off the area around the American and British embassies to ensure that they had frustrated plans to ex-

plore a car bomb. The answer to the perpetrators of violence would be a swift Arab summit, with majority voting and a plan of action [in] the political and economic spheres. That course would be supported by Western Europe and perhaps evoke an American response which might offer greater hope for Palestinians under Israeli occupation. To continue waiting for something to turn up can only further surrender the initiative to the radicals.

— The Financial Times (London).

FROM OUR MAY 30 PAGES, 75 AND 50 YEARS AGO

1910: 'Atrocities' Reported in Peru

LONDON — The secretary of the Anti-Slavery Society, having called attention to the atrocities on native Indian collectors of rubber by the agents of a British company in Peru, has received the following reply from the Foreign Office: "I am directed by the Secretary to inform you in reply that the question of the alleged ill-treatment of Indians in the Putumayo Valley is engaging the most serious attention of His Majesty's Government." A correspondent acquainted with the situation writes: "There is a strange similarity between the Congo system of exploitation and its resultant practices, and that of the Putumayo Valley."

1935: Six Killed in Rhodesia Strike
BULAWAYO, Rhodesia — The strike of native miners in the Northern Rhodesian copper belt took an ugly turn when police were forced to fire upon a dangerous mob, and the Europeans of the region are now arming for their own protection. Six native rioters were killed when the police opened fire on a mob of 300 who were trying to rush the powerhouse in the mining town of Roanoke. It had been thought that the trouble which rose in the copper belt a few days ago was over as the Royal Air Force planes which transported native troops to the mining region for police duty had overthrown the native trouble-makers.

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Managua Arms, Havana Looms, Washington Trembles

By William Pfaff

PARIS — A booklet called "Central America as a European-American Issue," just published in New York by the authoritative Council on Foreign Relations, contains this statement: "Cuba today is, after the United States, the largest and most powerful military force in the Western Hemisphere — much more powerful than Canada or Brazil for instance . . . (Britain might have been able to wreak its will on Argentina, but it would be hopelessly outclassed in a conflict with Cuba if it were not to use its nuclear weapons.)"

The writer is Irving Kristol, a member of the faculty of New York University, an editor of the influential journal *The Public Interest*, a columnist for *The Wall Street Journal* — in short, a major figure among those "neo-conservative" intellectuals who enthusiastically back the Reagan administration.

The statement, of course, is preposterous. But it is also significant.

The standard reference work on military forces is the yearbook of the International Institute for Strategic Studies, "The Military Balance." The current issue records Cuba as possessing total armed forces of 153,000 members, nearly two-thirds conscripts, with 190,000 reservists. The navy (12,000) has four submarines, two frigates and various coastal patrol and auxiliary vessels. The air force (16,000) is substantial, with 250 combat aircraft and some 38 armed helicopters.

Canada has smaller forces overall, with 160 combat aircraft plus helicopters, but a navy vastly outclassing Cuba's. Canada's industrial base — its GNP — is 20 times that of Cuba.

Brazil has regular military forces nearly twice the size of Cuba's, paramilitary security and militia services larger than the entire Cuban army, a navy of seven submarines, an

aircraft carrier, 10 destroyers, six frigates, etc. The Brazilian air force has 215 combat aircraft. Brazilian GNP is 15 times that of Cuba.

As for Britain — do we really need to go on? — it possesses an all-professional military service twice the size of Cuba's, one of the four principal navies in the world, with 56 major surface combat units and 32 submarines, most of them nuclear; an air force of some 650 combat aircraft. This is one of the world's serious military establishments, with rich combat experience, tradition, élan and a taste for trouble, as Argentina found out.

What on earth is Mr. Kristol talking about?

What is the Council on Foreign Relations doing that it would allow such a silly thing in one of its publications?

The answer, so far as Mr. Kristol is concerned, is undoubtedly that he believes what he wrote. He believes it without seriously examining the matter because if it were true it would validate a larger hypothesis about which he feels no doubt. This is a comprehensible intellectual process but it often ends badly, as here.

Consider the case of Nicaragua that lies behind what the preoccupation that lies behind what Mr. Kristol wrote. It is held in Washington that Nicaragua poses a threat not only to the Central American region but to the United States itself. A joint State and Defense Department document on Nicaraguan military strength was issued in April. It stated that there has taken place in Nicaragua's military buildup without precedent in Central America . . . with massive assistance from Cuba and the Soviet Union."

What has this "massive" effort produced?

According to the Defense Department's own figures, there is now a Nicaraguan regular army of 30,000. There is an air force of 27 aircraft, four of them 50-year-old DC-3 Dakotas, and 36 helicopters; several of them a powerful new Soviet attack model to be used against the U.S.-sponsored "contra" guerrillas. The air force has 2,000 men in it, and the navy has a total complement of 1,000. The threatened United States has, today, more people on active duty in its armed services than the entire male population of Nicaragua.

What is going on here, as in Mr. Kristol's statement, is an attempt to make a tangible

and convincing threat out of an intangible one. The U.S. government, on ideological and political grounds, is convinced that the present government of Nicaragua must be overthrown. It believes, as Mr. Kristol puts it, "that at the heart of world politics today is an ideological conflict between two models of the future." Mr. Kristol adds of Central America: "It is perfectly conceivable that in the not too distant future the Reagan administration will feel that it has no alternative but to intervene militarily."

This is not a position for which Washington finds much support in Latin America, nor among U.S. allies in Europe. It may be a position to which the majority of people in the United States are opposed. However that may be, it is a case which merits attention and debate on its own terms. To attempt to substantiate another argument is to lie.

Norman Podhoretz, the New York writer and editor who is also a prominent Reagan supporter, proposed last year that if George Orwell were alive today he would have become a neo-conservative intellectual and a backer of the Reagan administration. I myself have no privileged information on Orwell's preterrestrial views on such a matter. I would nonetheless think that the man who wrote so firmly on questions of language and truth, invented the concept of "Newspeak" and said that "political language" — and with variations that is true of all political parties, from Conservatives to Anarchists — is designed to make lies sound truthful and murder respectable, and give an appearance of solidity to pure wind," might balk at how the Central American issue is being discussed by the Reagan administration and its friends.

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Middle East Prospects: Peres Could Stoke the Politics of Peace

By Stephen S. Rosenfeld

WASHINGTON — Israelis are conducting a painful debate over whether, in order to get back three prisoners lost in Lebanon, they were right to free 1,150 Arab prisoners, most of them Palestinians and many of them convicted terrorists. The release could hatch more terror, by some of those released or by others emboldened by the prospect of gaining liberty in another exchange.

But little as they care to hear it, Israelis need to be reminded that the Palestinian problem is only in the second instance terror. In the first instance it is politics.

What can still be done to turn Palestinian energy from rage to conciliation? The prisoner exchange marked the failure of one Israeli answer.

The previous Israeli government had invaded Lebanon primarily to solve the Palestinian question — by destroying the last adjacent PLO presence and by opening the way to absorb the occupied West Bank fully into Israel. Only the first of these two goals was achieved.

The new Israeli government has since accepted a requirement for a political solution. So far, however, Prime Minister Shimon Peres has accepted it only in words. He has pleaded preoccupation with leaving Lebanon and saving the economy.

While warily accepting the latest U.S. bid to renew the peace process, Mr. Peres has essentially sat on his hands. King Hussein of Jordan, Israel's would-be partner, has in effect reinforced the Peres strategy by keeping his own steps toward accommodation well short of the point at which America would be honored to insist that Israel respond.

In the American view, the onus for continued stalemate remains on King Hussein, and it is easy to see why. Israel prefers it that way. Its place is already full. Mr. Peres cannot possibly want the coalition-busting West Bank issue to come up until he can show a skeptical electorate that there is something good in it for Israel.

Besides, much is going well for Israel, in the area and in Washington. In the area, Israel is cutting its

losses in Lebanon. Mr. Peres's effort to warm the "cold peace" with Egypt may be moving. Syria is intransigent but isolated. Iran and Iraq continue their mutual bleeding. An Egyptian-Jordanian-Saudi-Iraqi axis of moderates is holding. The '70s notion of an invincible Arab juggernaut faded as oil prices fell. The Arab countries smart at American favor for Israel but decline to put their bilateral relations with Washington on the line.

In Washington, Israel enjoys what the head of the Israel lobby calls its best relations ever. President Reagan is the soul of warmth, and the coldness Israel once feared from the Bechtel brothers, Caspar Weinberger and George Shultz, is gone. Annual aid is rising toward the (unadjusted)

dollar level of the whole Marshall Plan. Political disruptions like the kyrion question are quickly eased. Israeli hope — well, it is the most difficult current problem area — that American arms sales to friendly Arabs can at least be continued.

All of this makes an appealing case for standing pat and waiting for King Hussein either to coddle Yasser Arafat and make Israel offer it cannot refuse, or more likely, to fall short.

Politically it is turning out to be no strain for Mr. Peres to be open enough to negotiations and to call for improving the "quality of life" on the West Bank, so as to satisfy the Reagan administration; Congress is even more demanding. Bibiung removed Washington's residual incli-

nation to demand major economic policy reform in return for extra aid. There is no expedient argument for Israel to do things differently.

Everyone is tired of alarms of doom and crisis ahead in the Middle East. Let it simply be stated here that Israel's policy is tragically shortsighted.

All of this makes an appealing case for standing pat and waiting for King Hussein either to coddle Yasser Arafat and make Israel offer it cannot refuse, or more likely, to fall short.

Israelis are always saying that pressure only freezes them. Well, they are under no pressure at present. It will never be easier. And Mr. Peres does not have that much time left on his lease on the premiership.

Satisfying the United States is one

thing, the routine business of Israeli diplomacy, but that leads nowhere. Drawing King Hussein out of his crouch is what counts. He frustrates Israelis but, with good reason, he entices them with his promise of movement to come. Everybody in the Middle East knows what is necessary for the Israelis to give King Hussein something he can work with.

The Israelis have spent 18 years "creating facts," making it harder for King Hussein and then protesting that he does not deliver. They have dozens of ideas they could pull out of the drawer to get something started without undermining their security or their bargaining position.

More than almost anyone else in Israel, Shimon Peres knows what to do. Destiny beckons.</p

AVIATION

A SPECIAL REPORT—PART I

THURSDAY, MAY 30, 1985

Part II Will Appear
In Tomorrow's Editions

Page 7

Creative Financing In Buyers' Market

By Lew Townsend

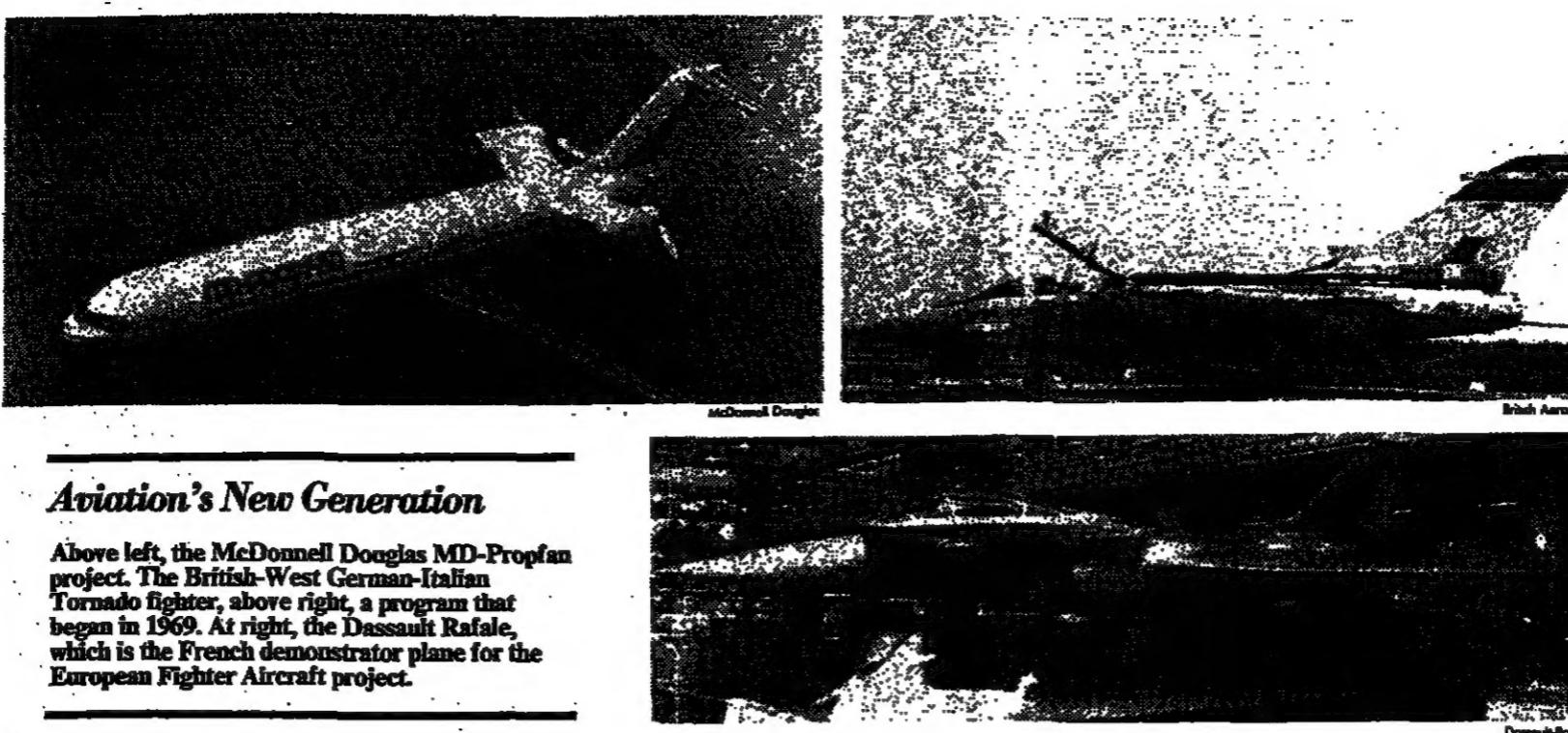
WASHINGTON — Aircraft manufacturers, striving to pump life into a still-depressed world market, are turning more and more to "creative financing" and unusual arrangements to keep production lines moving.

Barter deals could become more commonplace, some industry executives say, notably those associated with Mitsubishi, the Japanese conglomerate whose operations include a multibillion-dollar international trading company and the manufacturing of Diamond corporate jets.

For the moment, though, bartering represents a relatively small weapon in the battling between manufacturers for aircraft sales.

More important and growing is the reliance upon direct financing assistance from the manufacturers and "sales-type" leases, where new models are leased with the lessee receiving an option to buy it later. In 1979, for instance, Boeing, the world's largest producer of jetliners, had \$208 million tied up in such investments. By the end of last

(Continued on Page 9)



Aviation's New Generation

Above left, the McDonnell Douglas MD-Propfan project. The British-West German-Italian Tornado fighter, above right, a program that began in 1969. At right, the Dassault Rafale, which is the French demonstrator plane for the European Fighter Aircraft project.

Third World Holds Its Own With the West's Majors

By Robert Cockburn

LONDON — It is a paradox that some of the poorest nations have created some of the most extravagant aircraft industries.

The financial strains endured by Western manufacturers can only hint at the problems faced by developing countries in the limited aircraft market. Yet, in the 1970s and 1980s, there has been a growth in the number of home industries in Asia and Latin America.

Many of these operations were set up for reasons of national pride or a more practical desire to be-

come self-reliant in arms production, building equipment under license. Entering the space race possessing a nuclear capability or building one's own air force appeared far more dynamic than providing drinking water, dams and a decent diet. Money did not come into it; status did.

That was until Brazil came into the market (with the world's biggest overdraft) and not only began to make the industry pay but also began to beat the Western manufacturers at their own game. This year Britain's Royal Air Force chose Brazil's Embraer Tucano as its new-generation advanced trainer after an acrimonious battle against an international field including British Aerospace. It was an unprecedented coup for a Third World state to win such a large order, £125 million, from such a prestigious and tough customer.

For its British partner in the deal, Embraer collaborated with Short Brothers, the Northern Irish aircraft manufacturer. Short Brothers not only had the technology but also the right political clout with the British government.

It is said that the prospect of bringing badly needed wealth and jobs to Northern Ireland played an important part in the government's final decision. As the decision was made, British Aerospace pointed out that its own offer was more than £5 million cheaper.

For the Brazilians, the psychological barriers of being a Third World producer are down. They possess the fifth-largest defense industry in the world and they lead some 20 developing countries with aircraft industries.

In 16 years, Brazil has developed a highly sophisticated aviation industry. Besides the Tucano trainer, which has been sold in its original form to South America and the Middle East, the company has succeeded in the civil sector. The twin-prop Bandeirante is nearing sales

of 500 aircraft in 26 countries where it has been bought by 80 operators. The new 30-seat Embraer Brasilia transport plane is the largest project and has so far won orders from the Brazilian and Chilean air forces. Brazil also has a helicopter assembling company and two small aircraft producers.

Argentina has four aircraft companies, the largest of which is FMA, the military manufacturer, established in 1927. Since the late 1960s, it has produced the Pucara counterinsurgency aircraft for the Argentine Air Force while a new advanced jet trainer is in the proto-

type stage and is awaiting development. The Aero Boero and Cimcan companies make light aircraft, and RACA produces Hughes helicopters under license.

Chile began assembling U.S. Piper PA28 light aircraft in 1980 with the formation of Eshor under the auspices of the air force. In the same year Piper and Eshor began development of the T-35 military trainer, while a deal was signed with CASA of Spain to build the Aviojet advanced trainer.

Egypt is the sole member of the Arab Organization for Industrialization, set up with Saudi Arabia.

(Continued on Next Page)

Qatar and the United Arab Emirates in 1975, to provide a military industry. Its partners pulled out after the Camp David accord with Israel. But the Egyptian factories today produce the French Aerospatiale military Gazelle helicopter, Brazil's Embraer Tucano and the French/West German Alpha Jet attack aircraft. The organization's factories also make rockets and missiles.

India takes a nonaligned stance, producing high-technology military aircraft from the Soviet Union and Europe at its huge Hindustan

United States.

President Francois Mitterrand of France is fond of recounting how, at the recent seven-nation economic summit in Bonn, he heard Mr. Reagan use the word

"subcontractors" to describe European involvement in the Strategic Defense Initiative, which the French leader said "confirmed my intuitions." Mr. Mitterrand told Mr. Reagan at the summit meeting that France would not participate in the initiative in its current form, and he has repeated the statement on several subsequent occasions to reporters.

It was the latest example of how U.S. aerospace companies are actively pursuing new cooperative ventures with their counterparts in Western Europe.

Speaking more bluntly, Hans-Dietrich Genscher, foreign minister of West Germany, told reporters in Paris last Wednesday that the U.S. effort to enlist European support for the program amounted to "Americans going through Europe with their checkbooks."

He added: "We cannot risk losing our best brains."

Meanwhile, U.S. British French and other West German officials, in separate statements last week, emphasized that the U.S. program was compatible with Eureka, a French-led effort to develop high technology in such sectors as optic electronics, new metals, laser and particle-beam technology and fifth-generation computers. But most officials on both sides of the Atlantic still believe that Eureka is Europe's response to Strategic Defense Initiative research, even though no details have yet been disclosed by France, including the costs.

Both the U.S. program and Eureka were important subjects of conversation between Mr. Mitterrand and West German Chancellor Helmut Kohl during a meeting Tues-

(Continued on Page 10)

Spaceplane: Picking Up Where the Shuttle Stops

By Theresa Folley

WASHINGTON — By the end of the century, U.S. military pilots may be able to hop into spaceplanes stationed at military bases around the globe and fly into orbit with short notice. With these revolutionary flying machines, the Pentagon would be able to place small surveillance and communications satellites into low Earth orbit or rendezvous with satellites already in space.

Although only in the conceptual stage now, steps are being taken to ready the technology necessary to build transatmospheric vehicles, space cruisers and orbital aircraft in the coming decades. These new aerospace planes would add considerably to U.S. Air Force space capabilities.

What missions could these new vehicles accomplish? The Air Force is trying to answer that question now with mission studies and user surveys, but at least one possible survey is to achieve the capability

to destroy enemy satellites. Air Force Systems Commander Gen. Robert T. Marsh provided a clue to why advanced spaceplanes are desired in an article he wrote for Air Force Magazine last year: "The aerospace vehicle could take off, climb out of the atmosphere and achieve a partial orbit on its way to the target; possibly even attack an enemy's low-orbit space-based assets while in orbit; re-enter the atmosphere and attack a ground-based target, and leave the atmosphere again and orbit to return to its home base."

The Air Force now uses the shuttle and traditional "expendable" (or throwaway) launchers for access to space. But the shuttle is not ideal for many military missions. It is too big, not very maneuverable and it is tied to a very limited number of launch and landing sites. For many military tasks, using the shuttle would be like using a Mack truck when a two-seat sports car.

(Continued on Page 12)



Concept drawing of one of NASA's advanced military spaceplanes.

TOMORROW

■ Profit-taking: Four U.S. carriers posted two-thirds of total industry profits in 1984. Has deregulation helped the industry prosper?

■ Plugged in: Two airlines dominate electronic marketing for U.S. reservations and sales. But are the systems biased?

■ Class acts: Does class make all the difference? A look at leg room, food and drink, and other perks in first, business and tourist classes.

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How to fly a big airplane with the tips of your fingers?



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The Chinese Market: Vast, Untapped and Difficult

LONDON — Nothing will do more to concentrate the minds of rival aircraft manufacturers at the Paris Air Show at Le Bourget than the approach of a delegation from China.

A combination of economic and political factors has turned the People's Republic into a vast — and for the most part, untapped — aircraft market, the likes of which will not be seen again. For the hard-pressed European and American industries, the potential for creating a modern airline system on such a large scale is awesome.

Yet, while the Chinese have allowed a number of them to make modest inroads into its least-developed transport sector, no single manufacturer has emerged as a dominant force. It is just not the way things are done in Beijing. For the Chinese are being most

careful about how and with whom they spend their money. And none of the companies will claim to know what long-term intentions lie behind the scrutinizing minds of the three major delegations from the Ministry of Aviation. China's own considerable manufacturing industry and the national airline, when they window shop in Paris.

Contemplating the infinite varieties of hardware, the Chinese are picking up small portions here and there to get a taste from several sources on both sides of the Atlantic without making a large single order.

So far Boeing has been successful in selling 10 B-737s, of which five have been delivered. British Aerospace says that the order was made before the Chinese had the chance to evaluate its brand new BAe 146 commuter jet last summer. It is designed specifically for rugged locations and efficiency. So the Chinese agreed to buy 10 of the

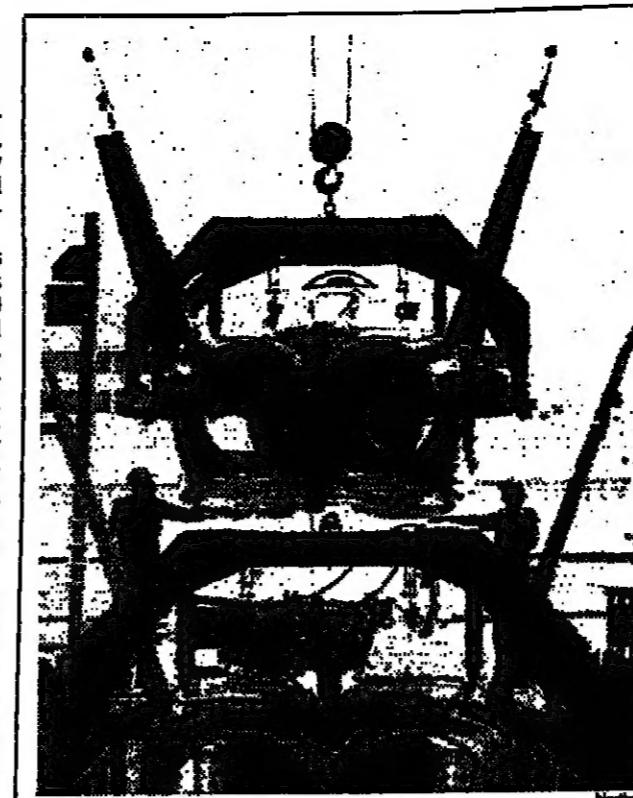
146s. But with British airliners operating in China since the 1960s, British Aerospace feels that its new product mixed with its established roots will lead them to more substantial orders.

Equally hopeful is Britain's Short Brothers, which earlier this year sold eight of its regional 330 airliners to China. It is reported that a deal to purchase Soviet projects has been agreed. And in Sweden there is confident talk of a deal this year for the purchase of Saab-Fairchild SF340s with delivery as many as 50 aircraft starting later this year. At the big end of the market the European Airbus Industrie has secured an order for three of its wide-bodied A-310s.

But perhaps the biggest breakthrough has come from McDonnell Douglas for landing a contract to supply 26 MD80s worth up to \$1 billion. The twin-jet airliners will be built under license in Shanghai, providing China with its first home-assembled modern airliner. The Americans will train part of the factory's 10,000 workers (an important factor for the Chinese) and will establish a joint task force to study further projects.

Taking an active role in production — importing new technology and manufacturing techniques — is highly significant for a country with a large but outdated aviation industry. China has more than 10 aircraft factories dating back to the days of Japanese occupation in the 1930s. With Soviet assistance, these were re-established under Communism in 1949.

Their products, mainly military, are copies of Soviet types, again

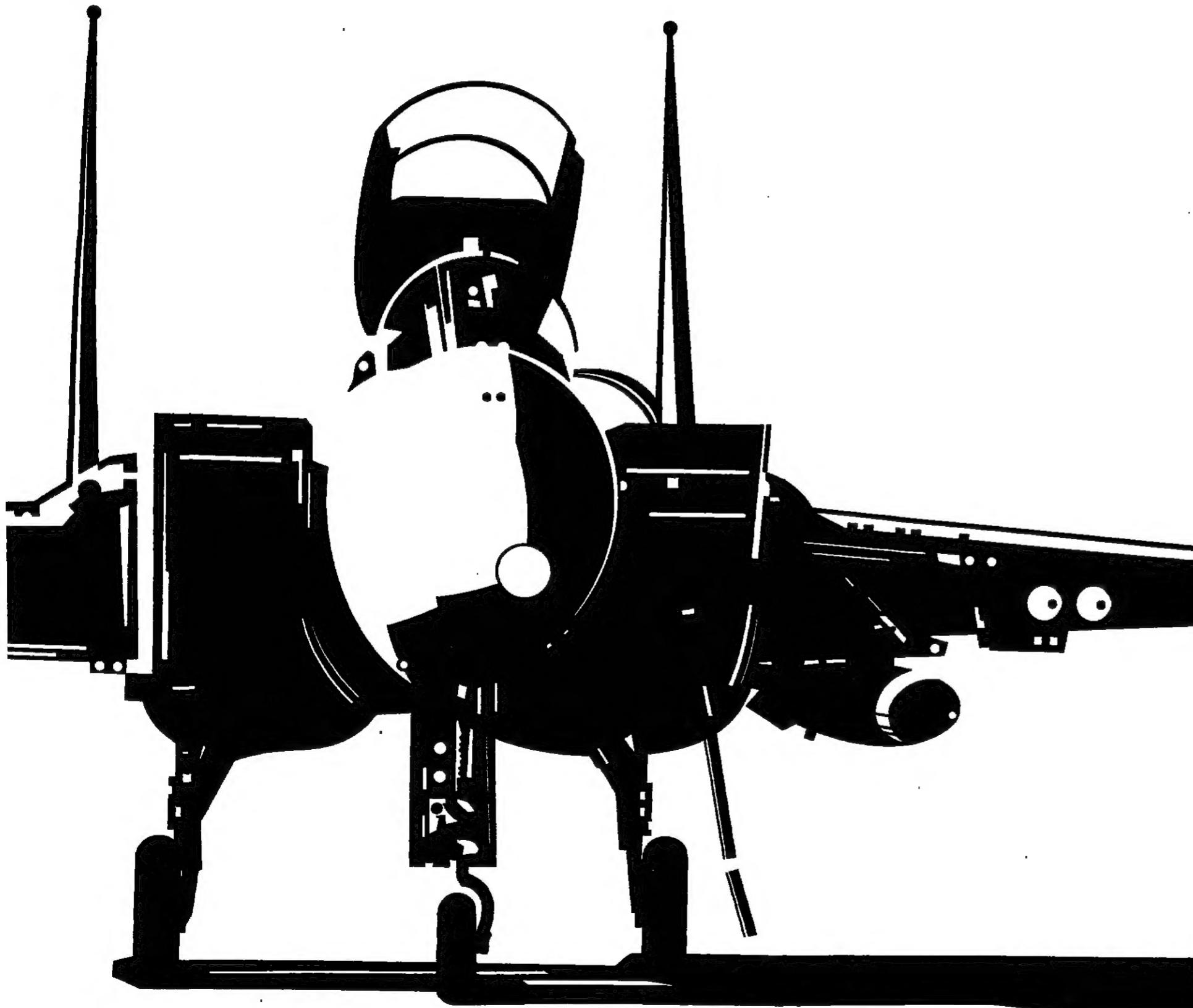


Completed F/A-18 shipsets are moved off the assembly line at Northrop in El Segundo, Calif. The plane has been chosen by the U.S. Navy and Marine Corps and the Canadian, Australian and Spanish air forces.

Northrop

The Tucano T-27 attack trainer from Embraer of Brazil, which is to be built in Egypt under license.

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In Soviet Aircraft, It's What Is Not Seen That Makes the Difference

By Christy Campbell

LONDON — "I have seen the future and it's the nineteen-fifties," said the man coming home off the Aeroflot flight. That used to be the joke about Soviet aerospace technology — that it was earnest but cumbersome, impressive on the outside but antiquated under the skin.

How true is that today, when the Paris Air Show will be dominated by the massive bulk of the world's largest aircraft, the Antonov An-124 Condor, dramatically showing off to the world just what Soviet engineering and Soviet aerospace technology are capable of?

Paris is the Soviet aviation industry's window on the West. The Russians do not set up shop at any of the other world aviation jamborees and withdrew from the Paris show two years ago after a diplomatic row. This year they will be basking in the sun for Soviet products (civil aircraft only, they bring no military aircraft for open display) to the West, while they try to find out as much as possible about what the West is offering. But what does the West know of their aircraft?

On the wall of a design office in Moscow there is a simple exhortation: "Make it simple, make it producible, make it work." That sums up a 70-year tradition of Soviet aviation in war and peace where quantity means more than quality and durability means more than sophistication. This has meant in turn that a number of developing nations, such as India, have found it easier to license-build from Soviet prototypes than from Western equivalents.

Meanwhile, the West has taken comfort in its perceived technological advantage. That confidence is eroding fast.

The noted design chiefs such as Andrei Tupolev, Oleg Antonov and Alexander Yakovlev pursued Soviet structures with almost complete continuity of purpose from the 1930s to the 1970s, and where they abandoned them, as in the case of the ill-fated Tu-144 supersonic transport, the result was disaster. Today, the old giants are gone but

their successors will work in a highly air-minded environment, with aircraft doing for Siberia what the railroads did for 19th-century America. But the bad news for the Soviet designer, then and now, is that the state is his only customer and he is working first and foremost for the military establishment.

Military aircraft, therefore, will be the specter of the Paris feast. The mighty An-124 is the first big transport prototype for a long time (although it also has military significance), but through the last 10 years a mighty investment has been made in military aerospace technology.

According to the Pentagon, "The major research and design facilities engaged in the development of Soviet military aircraft, missile and space systems have grown by at least 30 percent in the last 10 years ... producing 20 new types of aircraft since 1970 and 35 new types of missiles. The Tupolev design bureau, responsible for the development of such aircraft as the [NATO-designated] Blackjack strategic bomber has doubled in size during the past decade."

While Soviet research and development may take up to four times as long as Western equivalents, the Soviets get there in the end and deploy, in large quantities, aircraft that are the combat equivalents of anything in the U.S. arsenal — aircraft like the lightweight, dog-fighting MiG-29 Fulcrum, which is very close to the F-18, and the long-range Su-27 Flanker, plus some formidable helicopters.

Already, the U.S. Air Force is postulating a "MiG 2000," which would feature an airframe of composite materials and an advanced computerized test-flight control system. Computing is where the West holds a key lead in military aerospace technology and why high-tech transfer is such a sensitive issue.

Paris will fill the shop window with high-tech displays, which the Russians will be scrutinizing from every angle — but, no doubt, the nine days of the Condor in Paris will have a lot to teach the West.

Third World Holds Its Own With the Majors

(Continued From Previous Page)

Aeronautics Co. The industry goes back to 1940 and today employs 40,000 people making planes and equipment for the air force. The Bangalore Complex turns out under license SEPECAT Jaguar combat aircraft and the Adour engine. Airframes and engines for the Soviet MiG-21 are made at Nasik and Koraput and construction of the MiG-27M was due to go ahead at the end of 1984. Avionics and accessories are made at the Lucknow division. Home designs include the Kiran jet trainer and HPT-32 prop trainer.

Indonesia is gaining recognition for its Nurtanio aircraft company, which was formed in 1976 and has since won export orders after supplying several home customers. The Aviocar twin-turboprop passenger and cargo plane is still built under license from CASA. Now Nurtanio and the Spanish company are developing a new 39-seat plane. The company also manufactures under license French Super Puma helicopters and the American Bell 412 helicopter.

Mexico, in a partnership with America's Rockwell International, has turned out Quail Commander and the agricultural Sparrow Commander since the early 1970s.

Pakistan made the Mughishak, a licensed version of the Saab Safari single-engine light aircraft, for the air force. Two other factories of the Pakistan Aeronautical Complex rebuild local versions of the MiG-19 and the Mirage III.

Peru intends to establish an aircraft industry with the help of the Italian company Aeronautica Macchi. Known as IndAer-Peru, its first task will be assembly of the

Italian MB 339A trainer followed by a deal to manufacture this and another type under full license.

The Philippines Aerospace Development Corp. has assembled more than 40 West German BO-105 helicopters and 60 British BN-2B Islander light transport aircraft.

The company has a maintenance and overhaul operation.

Singapore Aircraft Industries was formed in 1982 for the maintenance of aircraft from the local air force and the U.S. Navy and Marine Corps. Plans are under way to assemble the Marquette S-211 jet trainer from kits and Super Puma helicopters.

Taiwan began constructing aircraft in the late 1960s and has produced large numbers of American Bell helicopters and Nordurop tactical fighters for the Chinese Nationalist Air Force. By the 1970s, the Aero Industry Development Center was designing and developing its own aircraft — the T-CH-1 basic trainer was its first product. Money problems halted the AIDC's XC2 twin-turboprop transport after the first prototype flew in 1979. New efforts are being concentrated on a new jet trainer for the air force.

Thailand is unusual in that it designs and builds all its own aircraft from scratch. All have been air force trainers and one utility aircraft, the RTAF-2. The latest project is the RATF-3, a turboprop trainer, which was due to make its first flight last year.

Turkey is to start production of American F-10 fighters following completion of a new aircraft complex at Mirele, near Ankara, next year. A joint-venture company set up between the Turkish company TUSAS and General Dynamics will make 160 aircraft.

Aircraft, It's
Not Seen The
Difference

Worldwide Operating Profits Boost Orders for Aircraft

By Michael Virtanen

WASHINGTON — Worldwide deliveries of new commercial jetliners fell in 1984, but aircraft orders increased substantially due to improved airline operating profits.

Most of the renewed interest was in smaller jets with passenger seat capacities of about 100 to 150. The demand for new wide-body jets lagged.

Orders dropped off in the early 1980s due to the recession and airline losses. Since the typical lag time between orders and deliveries, meaning actual sales, is about two years, the impact was still felt in 1984.

The makers of large commercial passenger jets — Boeing, Airbus, McDonnell Douglas, Fokker and British Aerospace — reported combined deliveries in 1984 of 259 such planes, a drop of 18 percent in sales from the previous year.

According to one market analyst, that meant the manufacturers' revenues shrank by more than \$1.5 billion to about \$9 billion last year, with Boeing taking in more than half of the money. Airbus about a quarter, McDonnell Douglas 12 percent, and the others about 6 percent.

However, the five also reported a 42-percent jump in firm orders in 1984 for a total of 338 commercial jets. That should translate into improved sales starting this year.

The main catalyst for the turnaround was renewed airline operating profits last year, according to most observers. The U.S. scheduled airlines recorded \$2.3 billion of operating profits, while international airlines collected net profits of some \$500 million.

McDonnell Douglas enjoyed the

largest increase in orders of the five manufacturers last year with firm orders for 110 jetliners, up from 44.

"It was a good year in 1984," said a spokeswoman for Douglas Aircraft in Long Beach, California, a division of McDonnell Douglas.

"We expect a good year in 1985."

The bulk of McDonnell Douglas's good fortune came from American Airlines, which ordered 67 MD-80s early in the year, plus options on 100 more of the twin-

year, a marked decline from 196 the year before.

However, Boeing reported firm new orders for 169 passenger planes, up from 136. Despite 12 cancellations of previous orders, the company still reported a net gain in orders, and said in its annual report that it will deliver 201 commercial jetliners in 1985, as well as a few military sales.

"When airlines make money they buy planes," a Boeing spokesman said, adding that the company projects new 1985 orders to keep pace. He also cited reasonably low interest rates as one positive factor, but said the still strong U.S. dollar is an impediment to sales overseas.

Like McDonnell Douglas, the large majority of Boeing's new orders were for smaller planes, 135 of its twin-engine 737s, up from 69 orders last year. Most were for the new stretched version of the aircraft, the 737-300s that were sold for the first time in 1984 and seat approximately 130 passengers.

Boeing received orders for 110 of its 737-300s, including 24 from Texas Air Corp., the parent of Continental Airlines and New York Air.

Concerning widebody sales, Boeing delivered 16 of its 747s last year, down from 23. It received orders for 22 of the 300-plus passenger planes that normally seat 140 to 155 passengers.

The company expects to deliver 70 aircraft this year, up from 46 last year and 54 delivered in 1983. The new deliveries will include the start of American's order. If the airline picks up its options, McDonnell Douglas will be producing planes through 1991, the spokeswoman said.

Only seven of McDonnell Douglas's orders last year were for its widebody DC-10, normally a 280-passenger jet. That also represents an increase from a single 1983 order and two 1984 deliveries, but six of the new orders came from Federal Express, a U.S. package delivery service, for the tri-engine planes configured for cargo.

Boeing Company of Seattle, Washington, still the biggest manufacturer of large passenger jets, delivered 138 commercial aircraft last

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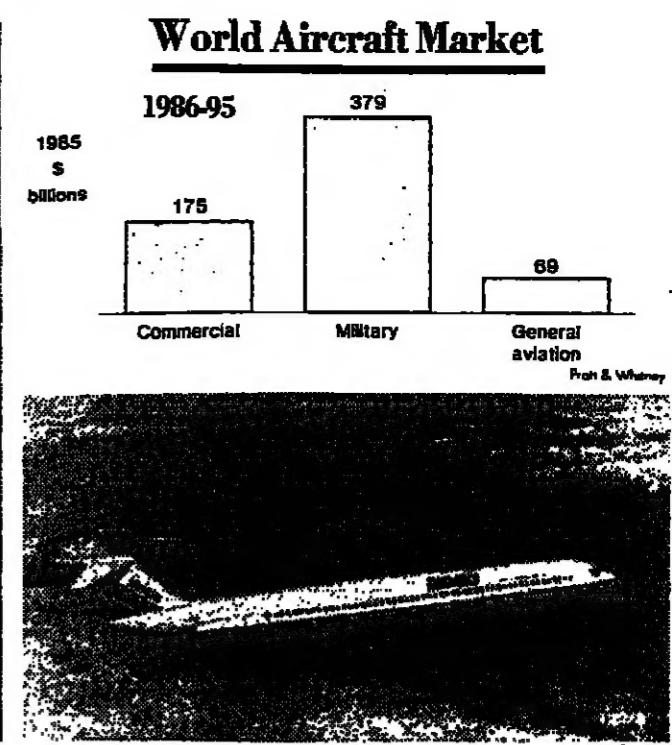
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Boeing 767-ER under construction, above; at right, a McDonnell Douglas MD-80.



McDonnell Douglas

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Concerning widebody sales, Boeing delivered 16 of its 747s last year, down from 23. It received orders for 22 of the 300-plus passenger planes that normally seat 140 to 155 passengers.

The company expects to deliver 70 aircraft this year, up from 46 last year and 54 delivered in 1983. The new deliveries will include the start of American's order. If the airline picks up its options, McDonnell Douglas will be producing planes through 1991, the spokeswoman said.

Only seven of McDonnell Douglas's orders last year were for its widebody DC-10, normally a 280-passenger jet. That also represents an increase from a single 1983 order and two 1984 deliveries, but six of the new orders came from Federal Express, a U.S. package delivery service, for the tri-engine planes configured for cargo.

Boeing Company of Seattle, Washington, still the biggest manufacturer of large passenger jets, delivered 138 commercial aircraft last

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However, Boeing reported firm new orders for 169 passenger planes, up from 136. Despite 12 cancellations of previous orders, the company still reported a net gain in orders, and said in its annual report that it will deliver 201 commercial jetliners in 1985, as well as a few military sales.

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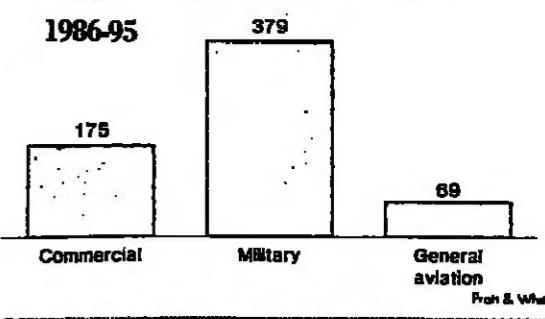
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World Aircraft Market



Pratt & Whitney

146 models, delivered 10 that year and 11 last year.

Orders for the BAE 146-100 and the 146-200, which seat 86 and 100 passengers, respectively, totaled nine last year, down from 32.

The main reason for the sharp statistical drop was a large order in late 1983 from Pacific Southwest Airlines, a U.S. regional carrier. PSA ordered 20 BAE 146-200s with options for 25 more, a British Aerospace spokesman said.

The widespread interest in new smaller jets is partly a result of continuing carrier emphasis on hub and feeder operations, a U.S. airline representative said. He said the soft demand for new widebodies may be the result of a strong demand for used big jets and the high price of new ones.

Creative Financing Is Child Of a Global Buyers' Market

(Continued From Page 7)

year, that figure had grown to \$541 million.

Less known are some of the innovative arrangements engineered by the airlines, such as one that allows them to get new models they need from the manufacturers and, at the same time, provide them with a major cash windfall.

In these cases, an airline orders, say, a Boeing 747-200 that cost \$80 million when ordered. Since it generally takes a minimum of 18 months to two years to get delivery, the price of the model when delivered might be \$84 million. Instead of merely paying off what is owed on the 747 and putting it in their fleet as a company-owned model, some airlines today sell the model to a third party at the then-going price of \$84 million and lease it back.

But for buyers in general, the widest variety of creative financing and promotional offerings is in the general aviation area.

The light-plane industry is in its worst slump since the early 1950s, based on unit sales, and buyers can almost dictate terms.

Inducements include hefty discounts ("list" prices are virtually meaningless, one industry researcher said); greater dollar allowances for trade-ins; cut-rate financing coupled with long terms, 10 to 15 years on some models, as op-

posed to a traditional five or seven years; cash rebates; extra options, and free training for pilots and mechanics.

More original is the growing willingness by some manufacturers to lease their models with options to buy. Some also push straight leasing arrangements, with the manufacturer guaranteeing to take the model back at the end of the lease period at a fixed price. The length and terms of such agreements are as varied as the more than 100 different models offered by these manufacturers.

Quantity purchases, the dream of every manufacturer,

A SPECIAL REPORT ON AVIATION

Northrop Steps Up F-20 Competition Against the F-16

By Richard S. Tuttle

WASHINGTON — The fatal crash on May 14 in Labrador of a Northrop F-20 Tigershark fighter bound for the Paris Air Show has not deterred the California company from stepping up its bid to compete with the General Dynamics F-16 Falcon for a U.S. Air Force purchase.

Northrop has another F-20 in flight test, but it will remain in the United States and not come to Paris; a third is under construction.

The crash, at Goose Bay during a practice demonstration, is the second for the F-20. The first, which was also fatal and which also happened during a demonstration, occurred last October in South Korea. It was attributed to pilot error.

The F-16 is already in the U.S. Air Force inventory, and General Dynamics expects continued purchases. But Northrop, which has spent \$800 million of its own money on the Tigershark in what has so far been an unsuccessful effort to sell the plane to other countries, proposed last month to sell about 400 to the Air Force for \$15 million apiece, more than \$4 million under the unit cost of the F-16.

The proposal has sparked interest in Congress and the Air Force and if it goes through, there could be a cut in the number of F-16s now planned.

It has thus gained the attention of General Dynamics. But General Dynamics also said it welcomes competition from the F-20 because the F-16 has proven its superiority. Northrop, meanwhile, says the F-20 can perform any mission assigned to the F-16.

Northrop is basing its pitch on the Air Force's acknowledgment of the importance of competition, as reflected, for instance, in the alternate fighter engine program, in which General Electric has been brought in to compete each year with Pratt & Whitney to supply engines for the F-15 and F-16 fighters. The upshot of the program has been a better deal for the taxpayer.

If the Air Force buys F-20s, the same would also probably be true. Another result for Northrop might be to prompt orders from other countries, something it has been trying to achieve since it started work on the program, competing with a version of the F-16, under former President Jimmy Carter.

Meanwhile, five European countries — Britain, France, West Germany, Italy and Spain — continue to debate how they will proceed on a new fighter of their own, the projected European Fighter Aircraft.

The plan has been to build over 1,000 of these to replace the Jaguars, Phantoms and Starfighters of those countries' air forces slated for retirement in the 1990s. But disagreements over operational requirements, the amount of work to be done by each partner and who will be in charge of the design have all stalled the program.

The British are proceeding with the Experimental Aircraft Program, which could lead to the Agile Combat Aircraft. And the French are developing the Rafale, which would replace the Mirage 2000.

In the United States the Advanced Tactical Fighter is being planned by the Air Force as a successor to the current F-15s and F-16s, and the Navy is planning development of the Advanced Tactical Aircraft as a follow-on to present fighters and fighter-bombers.

A consideration in both programs is cost. The Air Force, for instance, will be lucky to hold development cost of the Advanced Tactical Fighter to 50 percent above that of the F-15. To help costs down, a committee of Congress has suggested that the avionics of the Tactical Fighter and the Advanced Tactical Aircraft be 50 percent common.

One of the big problems of expensive aircraft, is that fewer can be bought, making for a disadvantage in wartime. The trend is already against the West: The Warsaw Pact countries have 2,250 fighter-bomber and ground-attack aircraft, while the North Atlantic Treaty Organization allies have 1,960.

And, while the quality of Soviet aircraft has not been up to that of their Western counterparts, this is changing. For example, the new MiG-29 fighter, which NATO has code-named Fulcrum, "reflects" the U.S.S.R.'s continuing drive to produce new generations of tactical, strategic and transport aircraft," according to the Pentagon.

The Soviet Union, as usual, will not be showing any combat aircraft at the Paris show, but it will show for the first time the new heavy-lift Condor transport plane. The Pentagon said the Condor, which is about the same size as the American C-5 Galaxy, will "significantly upgrade" the Soviet heavy-airlift capability.

But while Soviet aircraft are becoming more capable, there is also evidence that higher quality is as costly to the Soviet Union as it is to the West.

One way around the problem —



Helicopters: An Array of Tasks

Above, a U.S. Marine Corps CH-53E Super Stallion from Sikorsky lifts a firetruck. At left, top to bottom: A Sikorsky S-76 designed for executives, Britain's Westland Lynx 3 designed for military use, and a Bell Helicopter Textron Model 412 lands at London's Battersea heliport.

a way that is not new to the Soviet Union and that is finding renewed interest in the increasingly budget-conscious West and in Japan — is modifying aircraft already in service.

West Germany's Luftwaffe, for instance, is upgrading its F-4F Phantoms to keep them effective until the arrival of the European Fighter Aircraft or a comparable plane. And Japan's Air Self-Defense Force wants to improve its current F-1 fighters and keep them operational until the advent of the planned SFX fighter in the early 1990s.

In addition, the U.S. Navy is upgrading its A-6 attack planes and F-14 fighters.

The job of F-14s is to defend the fleet against attack by manned aircraft and cruise missiles. Lessons learned over the past few years during U.S. aircraft carrier operations in the Indian Ocean and in the Gulf of Sidra, off Libya, where F-14s shot down a pair of Soviet-made Sukhoi-22s Libyan fighters in 1981, may find new application to air defense of the continental United

States and Western Europe. The reason is that if the U.S. Strategic Defense Initiative actually leads to systems that can defend against attack by ballistic missiles, air defenses will probably also have to be upgraded.

To detect low-flying "stealthy" aircraft, the United States may eventually use satellite-borne infrared sensors. The "Teal Ruby" spacecraft, intended to evaluate the feasibility of such a plan, is to be launched next spring on a military mission of the space shuttle. The "Hi Camp" infrared sensor, mounted in a U-2, has already shown that infrared devices can detect small aircraft against a variety of backgrounds.

To intercept an intruder once it is detected, U.S. officials envision a ramjet-powered vehicle that could fly twice the distance of current interceptors in half the time. British Aerospace and other European companies are studying similar craft, as well as transatmospheric vehicles, which would fly from runways, change to orbital flight, de-

orbit, perform a mission, go back into orbit and return to a runway landing. A typical mission might take less than two hours.

While the West is studying new ways of detecting enemy aircraft, attention is also being focused by both sides on ways to avoid detection. Not much is known about Soviet efforts here, but the U.S. Navy's chief of intelligence has said that Soviet "stealth" technology may first appear in the form of modifications to aircraft already in service.

In Europe, the Experimental Aircraft Program, the Agile Combat Aircraft, the European Fighter Aircraft and the Rafale fighters are expected to feature some "stealth" technology.

And in the United States, the same is assumed for the Advanced Tactical Fighter and the Advanced Tactical Aircraft. Northrop, meanwhile, continues development of the stealth-based Advanced Technology Bomber, which will be designed to perform just such a mission with greater efficiency.

Civil Helicopters: Sales Are Caught In a Downdraft

By Stephan Wilkinson

STRATFORD, Connecticut — Helicopters have won the hearts and minds of Hollywood, but their success on the civil side of the aircraft business is far more limited than their manufacturers would wish. First came "Blue Thunder," then the TV-series spinoff of that cop-in-chopper movie, and now the even more successful television series "Airwolf," about a fantasy flying faster than a speeding bullet.

"Audiences love 'em, just as they do the copters featured in such network favorites as "Magnum P.I.," but they are apparently not yet ready for real-life heliports.

"There's a crying need for the infrastructure, the downtown heliport, to be in place before heliports are heavily accepted," said Robert Stangarone of Sikorsky Aircraft, the world's largest helicopter manufacturer. "We're working hard to make it happen. When we go in and brief an intelligent community, they realize helicopters are a lot safer than they had thought. It's usually a small but vocal minority that is opposed to heliports, with both safety and noise fears."

"People have to understand the sound of a helicopter," insisted the Bell Helicopter spokesman, Martin Reich. "In many cases, it isn't as noisy as a motorcycle or a truck, but it's perceived as a different type of sound."

So while the rest of the economy climbs strongly, the civil segment of the U.S. helicopter business seems caught in the worst downdraft in the 40-year history of the business.

Sikorsky reportedly has yet to recover the cost of developing its executive S-76, a sleek turbine twin that has been in production 10 years and that as yet has accrued only slightly more than 200 unit sales. Bell Helicopters has done no better with its smaller Model 222, the only other U.S.-made executive starship. It has had about 130 sales since 1980, and, as Mr. Reich put it, "I don't think anybody would make back their development costs on 150 aircraft."

The search for offshore oil, a hotbed of activity in the 1970s, when the industry was building hundreds of helicopters solely to carry commuting roustabouts, has collapsed just as oil costs have. Nor has the U.S. business community flocked to expensive rotary-wing aircraft.

"There's a tremendous tendency in business to enhance productivity

and cut costs," Mr. Stangarone said, and apparently helicopters are viewed as costly rather than productive. He noted that there also is legislation pending that could change how the Internal Revenue Service looks at corporate aircraft utilization. This could lead to fringe-benefit taxation of certain passengers aboard corporate aircraft, as well as discussion of the investment tax credit being changed.

Largely as a result of domestic stagnation, Sikorsky and other manufacturers are looking overseas for sales and are paying increasing attention to the development of lower-cost militarized variants of such civil helicopters as the S-76, for export to countries that cannot afford bigger craft.

Last August, Sikorsky announced a sale of quasi-military helicopters to China, a marketing victory important not only because it was China's first major purchase of U.S. military equipment but also because it showed the long-established New England company's newly aggressive interest in the international helicopter market.

(Sikorsky was awarded a \$140-million contract to supply China with 24 civilianized S-70Cs. Blackhawk utility-assault transports easily convertible to troop carriers and with uprated engines for use in the high elevations of the Tibetan border.)

Still, Sikorsky is something of a latecomer to the international arena, having been preoccupied throughout the 1970s with the establishment of two of its three current production programs, the U.S. Army S-70 Blackhawk and the civilian S-76.

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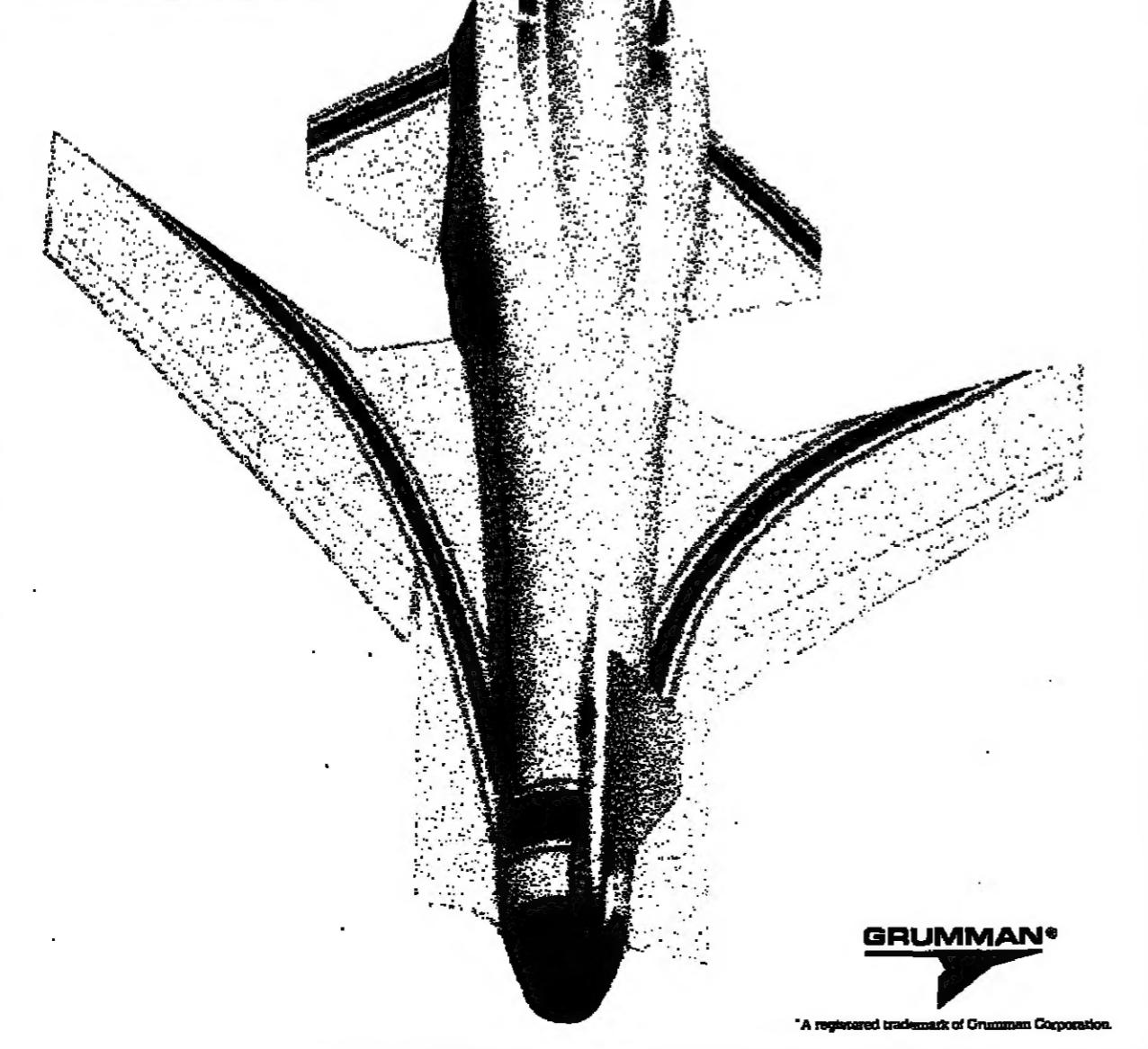
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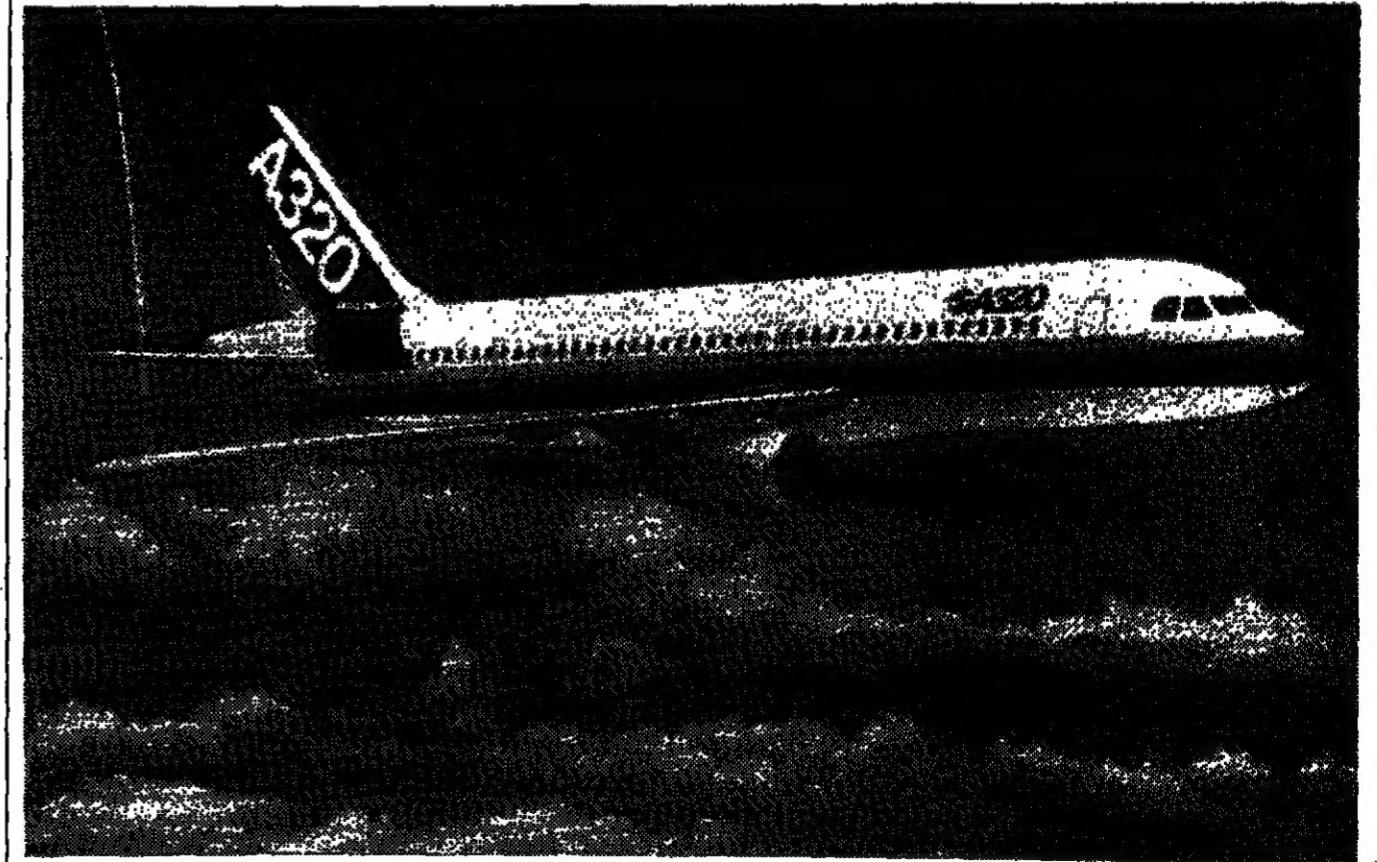
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Tensions Threatening Allied Ventures

(Continued From Page 7)

day in Constance, West Germany. The programs also were expected to be what a U.S. executive termed a "very upfront subject" at the Paris Show. Many European and U.S. aerospace companies have indicated strong interest in both projects.

Mr. Mitterrand recently told reporters that French companies could become involved in Strategic Defense Initiative research programs, if they felt it was in their interest to do so.

Several French military contractors have already held exploratory talks with U.S. officials, as have Italian, British and West German companies, and most of them will attend the air show.

General James Abrahamson, director of the U.S. defense department's Strategic Defense Initiative organization, told reporters in Washington last Thursday that "thin subcontractor business" reflected a "misunderstanding." What will probably emerge, he said, will involve "associate contract relationships" between U.S. and European companies. "In some cases, it may well be that a European contractor would be a subcontractor to a U.S. one," General Abrahamson said. But he clearly indicated that the United

States fully intended to maintain leadership in the initiative, and he did not elaborate on what he means by "associate contract" arrangements.

This is not to say that European governments are dropping their efforts to attain greater independence from the United States in high-technology areas with civilian and military applications. In fact, there still is a decidedly upbeat consensus in Western Europe that, when it comes to aerospace, Europeans can stand up to Americans and succeed.

Some examples: the euphoria in Paris, London and Bonn when Pan American Airways last autumn announced that it planned to buy Airbus planes for about \$1 billion; every launch of Ariane; and NASA's Space Shuttle program, which sponsored Ariane, and NASA plan cooperating in the manned U.S. space station planned for the 1990s.

Another example drawing con-

siderable attention is the European Fighter Aircraft project, which would be the largest European venture since the Tornado fighter-bomber project was established by Britain, West Germany and Italy in 1969. It could lead to the building of 1,000 aircraft, representing orders of about \$30 billion.

"EFA is one project, among others, we watch most closely and take very seriously," commented a senior U.S. diplomatic official in Paris. Most diplomats and industry observers consider the project a major test of Europe's aerospace industries to cooperate on a military project with a record number of potential partners.

Currently, however, the project is clouded by controversy between the British and French aerospace industries, which could cause it to unravel. Defense ministers of five participating governments, meeting in Rome on May 17, agreed on the weight and engine requirements for the European Fighter Aircraft project, but left unresolved such crucial and highly-controversial questions as design leadership and work sharing.

In fact, the European project illustrates how the current, contradictory conflicts cut across governmental and industry lines in

Europe and how, in the end, some kind of "U.S. solution" may yet emerge, particularly if France withdraws.

The immediate controversy stems from the insistence on design leadership that has been made repeatedly by Avions Marcel Dassault-Breguet Aviation, a leading participant in the project. British Aerospace PLC has insisted on equal work-sharing among the participants, which will also include West Germany, Italy and Spain. The Netherlands also is expected to join the venture.

Both Dassault and BAe plan flying their demonstrator planes next year to test the latest technology and materials that could be incorporated into the European Fighter Aircraft project.

British and West German government officials have recently indicated that they are counting on the French government to pressure Dassault into cooperating in what they term the broader interests of a "European solution."

But senior French aerospace industry executives, however, said that they doubted that the government, including the Elysee Palace, would press hard, even though the state with a 46-percent interest is

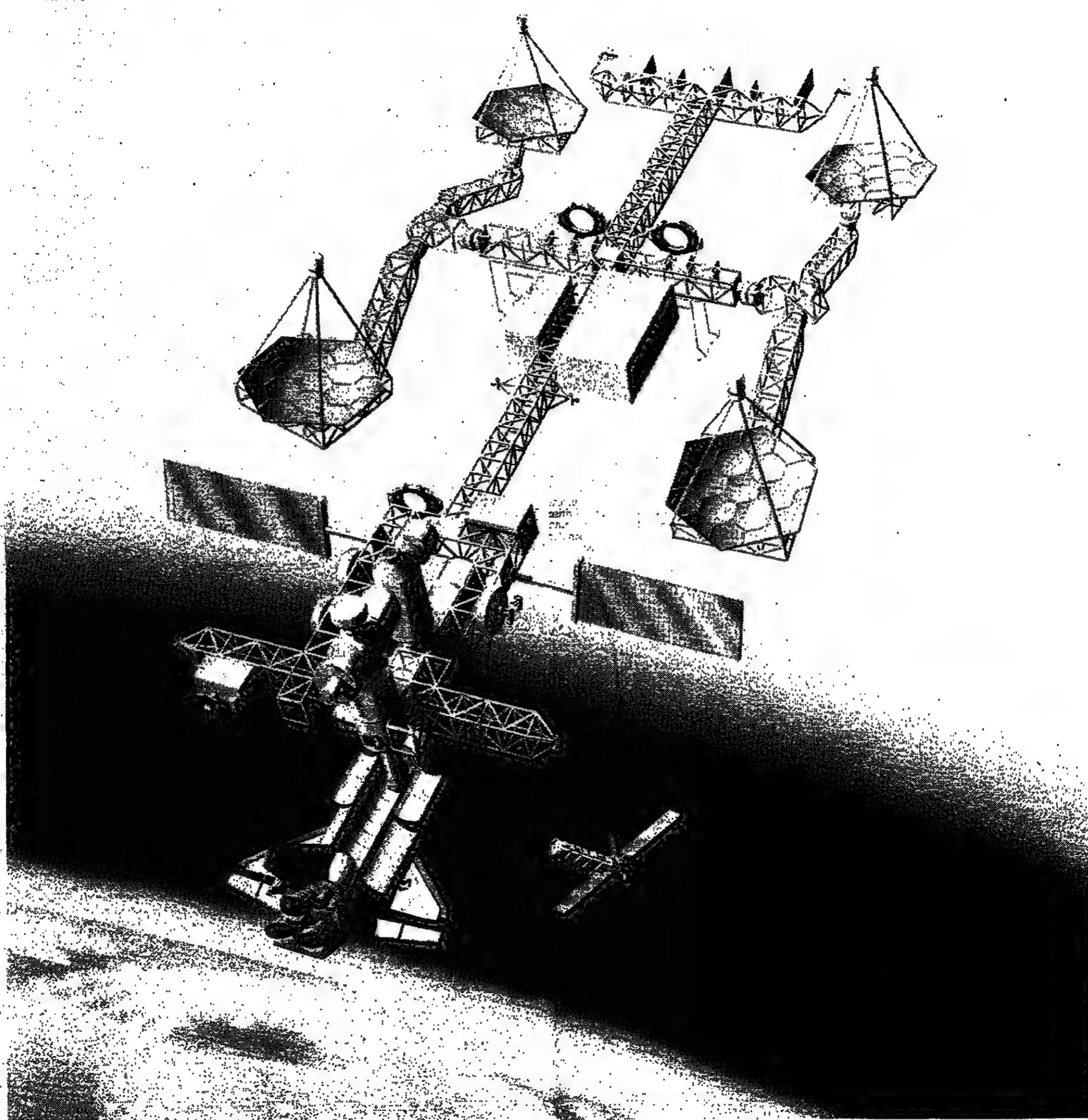
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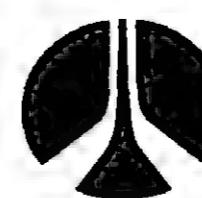


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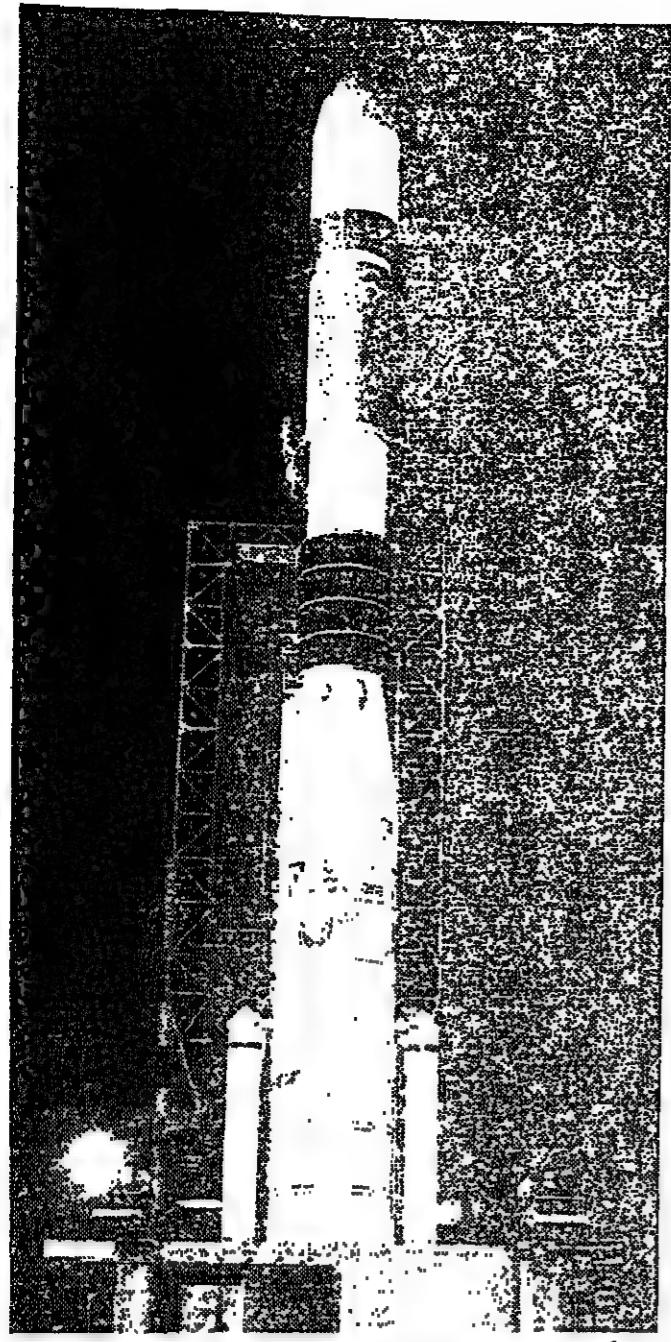
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Ariane on its launching pad.



Hermès, the European competition to the U.S. shuttle.



NASA

Drawing of one of NASA's projected transatmospheric hypersonic airliners.

The Spaceplane: Picking Up Where NASA's Shuttle Stops

(Continued From Page 7)

would do. In case of war, the shuttle might be too vulnerable to be used at all. Not only is it subject to attack when it is on the launch pad, but all an enemy has to do is take out the three launching pads — two in Florida and one in California — and the shuttle would be grounded for a long time.

The transatmospheric vehicle, known as TAV, could skip in and out of the atmosphere, providing the pilot a chance to photograph ground targets, deliver weapons or approach enemy satellites in orbit, then quickly maneuver away. TAV could fly around the world in 90 minutes, taking off in any weather. It has been described by one Air Force aeronautics official as "a killer Air Force weapon system that can go out and get the enemy."

An early definition of the transatmospheric vehicle was provided by Battelle Memorial Institute, with assistance from aerospace companies that included Boeing.

General Dynamics, Lockheed, McDonnell Douglas and Rockwell, under a 1983 contract from the Air Force, Science Applications, Inc., of Dayton, Ohio, is continuing the work under "Phase 2" of the contract, which will be completed this summer. The Air Force would like to move more quickly and spend more money on the project, but has been held up by Congress, which would allow only concept and mission studies.

In early 1985, the transatmospheric vehicle was brought under the wing of a new Air Force spaceplane program called Advance Aerospace Vehicles that consolidated work on advanced military spaceplanes.

An orbital aircraft that could carry 20,000 pounds to any orbital plane and accelerate directly from a runway to orbit also has been studied by the Air Force. Recent

technology advances in propulsion, thermal-protection systems and materials and structures have changed the attitudes of some mil-

itary airplane experts, who used to think such a plane was not feasible. This spaceplane, with a two-man crew, might make as many as two flights a day into space with high-priority cargo on board.

Another vehicle, dubbed the space cruiser, has been studied by the Defense Advanced Research Projects Agency. The cruiser might be carried into space in the shuttle cargo bay, then released to perform a mission and re-enter earth's atmosphere and land on its own. The cruiser would be a research craft, following in the path of the X- aircraft series that began more than 35 years ago. The cruiser would have a crew of one or two, who would wear pressurized spacesuits. That way, the cruiser would not have to be pressurized or have a life-support system, thereby keeping costs down.

The Air Force's desire to continue work in transatmospheric vehicle technology was given a boost in March when the White House issued a new policy endorsing trans-

atmospheric research as the third U.S. aeronautics goal for the future. The policy directed U.S. aeronautics researchers to work toward capability "to routinely cruise and maneuver into and out of the atmosphere with takeoff and landing from conventional runways."

The National Aeronautics and Space Administration plays a role in demonstrating the feasibility of programs like the transatmospheric vehicle. Jack Sudrich, NASA assistant director for aeronautics — high-performance aircraft — said the agency will spend \$5 million this year on hypersonic research, more than half of which will go toward propulsion that will help build a research base for future aerospace planes.

The United States is not alone in working on new advanced spaceplanes that may be flown by the end of the century. The Soviet Union has tested its unmanned spaceplane four times already. Western analysts of the Soviet space program disagree on what

the Russians' ultimate purpose in testing the subscale vehicle is, but one theory is that it is a small version of a manned vehicle that will be launched later.

Three European nations are advancing concepts for new space vehicles, although they most likely will have to narrow the ideas down to one and jointly fund a cooperative program to get the vehicle off the drawing boards and into development.

The French concept, called Hermès, has received the most publicity and probably is the most developed. Hermès, a mini-shuttle, would transport cargo and a crew of up to six to space, the space station in the late 1990s. France has funded research and development for the program to date, the European Space Agency ministers council said in February that it would welcome the invitation to participate in Hermès. Aérospatiale and Dassault are competing to become the prime contractor for Hermès, and an announcement of the winner is expected soon.

The West German firm MBB/Erno has proposed an unmanned vehicle called HORUS (Horizontal Reusable Utilization System) that would be launched on top of Ariane 5. HORUS would return to Earth after accomplishing its payload delivery and land automatically. In the United Kingdom, British Aerospace has proposed an unmanned spaceplane called HOTOL (Horizontal Take Off and Landing). HOTOL could take off and land automatically on conventional airport runways.

How much will these spaceplanes of tomorrow cost? Solid cost estimates for most of the systems are not available, but one Air Force officer summed it up by saying: "A TAV-like system will be a very expensive way to operate." Affordability is a prime driver.

Because of the high costs, U.S. and European officials will have to study the concepts very closely before making any commitments to build them.

As Avionics Advance, the All-Digital Airplane and Its 'Glass Cockpit' Near Reality

By George C. Larson

HENDERSONVILLE, North Carolina — Manufacturers of electronics are adapting the newest generation of avionics equipment to meet the requirements of aircraft users, ranging from defense customers to airline and business-fleet operators. Customers are becoming more selective as they gain experience with all-digital avionics sys-

tems, which introduce an entirely new set of operating principles.

Traditionally, avionics systems consisted of radio receivers wired to individual displays in the cockpit. When the proliferating number of displays began to exceed the ability of a pilot to scan and act upon the information, a movement to integrate displays and create a pictorial representation of the airplane's position in space got under

way. Complex mechanical arrangements provide to these "pictures" brought problems of their own.

The gradual introduction of digital computers in navigation and flight-control systems increased the information flow by an order of magnitude. Today, a single twisted pair of wires, a "databus," handles all the informational traffic that used to be carried by enormous bundles of individual wires.

The all-digital airplane is a reality: Boeing and Airbus build airliners that depend upon central digital processors to integrate the signals received from navigation "sensors" (the new term for the radio receiver) and to display the navigation situation on a cathode-ray tube. Military aircraft are already embarking on a second and third generation of such digital electronics. And in December 1984, the world's first all-digital business airplane, a British Aerospace 800, entered service.

How has the customer responded? With enthusiasm, largely, but with some misgivings as well. For one thing, sophisticated end users such as airline companies were initially bewildered by avionics systems driven by software (computer codes embedded within memory devices) rather than circuits and wires, which formerly defined electronic functions.

Airlines that had been accustomed to supporting their own electronics found a strange new world inside the new black box. But they learned fast. And some initial problems in protecting the computers and their software codes, the heart of digital avionics, from the intrusions of power interruptions were solved.

As they have gained experience, the airlines have been feeding back suggestions to the industry, and the next generation of avionics is currently being defined, but with some of the suggested changes designed into them. New systems for the next generation of airliners include the so-called "all-electric airplane."



developing laser-gyro applications for military systems. The laser gyro, with virtually no moving parts, replaces a complex mechanical set of ultra-precise, high-speed metal gyroscope sensor platforms.

The laser offers immense gains in reliability, offering many thousands of hours of trouble-free service instead of hundreds of hours for the old "iron" wheels. Computer-based navigation management systems are also maintaining the pace, but here, the contenders are not so clearly set: Scandinavian Airlines System recently ordered King Radio's KNS-560 long-range navigation computer, a system conceived and configured primarily for business airplanes, for use on its European routes.

Rockwell recently announced a new navigation computer and hopes to make headway among European

gradually being introduced as a replacement approach and landing aid, offering significant improvements in the accuracy of the radio beam that provides the guiding path to the airplane. Satellite-based navigation, currently being introduced to military customers, is being readied for the civil fleet as well.

The 1983 Paris Air Show witnessed the arrival of the first trans-Atlantic flight using the global-positioning system satellites as the sole means of navigation. A Rockwell Collins Sabreliner arrived at Le Bourget Airport and taxied to within a few feet of a target marker as a demonstration of the system's accuracy.

All the major suppliers of electronic flight instrument systems, sometimes called the "glass cockpit" because of the use of cathode

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(Continued From Page 9)

effort are France's Société d'Exploitation et de Constructions Aéronautiques (a subsidiary of Aérospatiale), Fokker B.V. of the Netherlands and Canada's Canadair Ltd.

Not all the wheeling and dealing is limited to new machines. By most accounts, some of the most interesting cases occur in the used-aircraft market, especially among the airlines.

A few of these were described during a financial conference last month in New York City sponsored by Britain's AirFinance Journal. Juan O'Callahan, founder and president of Connecticut-based TAI Inc., a transportation analysis firm, and a former assistant to the sales chief of Boeing's commercial aircraft division, provided most of the details.

In one case, he said, People Express capitalized on confusion in the aircraft market in late 1982 and 1983 that stemmed from the bankruptcy of Braniff Airways. People Express, Mr. O'Callahan said, "made several superb acquisitions." One involved an estimated \$30-million profit on the purchase of 20 Braniff Boeing 727-200s, which were built in the mid-1970s.

People Express paid an average of \$4.6 million for each aircraft, which was "about \$1.5 million below the fair market value at subsequent recovery market conditions a year or so later," he said.

European airlines have their own success stories, according to Mr. O'Callahan.

He recounted how Italy's Alitalia sold to Federal Express three DC-10-30s that were built in the early 1970s. The price was "over \$25 million each, which we would have determined to be about 25 percent over the fair market value at the time of the transaction."

United and Scandinavian Airlines also "pulled off a strategic buying coup" last year, when they acquired five former Laker DC-10-30s. He said they paid \$25 million for each of the aircraft. "We place the fair market value of these young, low-time aircraft at \$31.6 million each at the time of the transaction, and their value will be moving up to \$39 million as the larger widebody market continues to firm up further in 1986 to 1987," he said.

As long as such deals are available in the used-aircraft market, manufacturers will be forced to continue developing innovative ways to attract buyers for their new models, according to industry observers.

customers. Expansion of Loran-C navigation, particularly in North America and the Middle East, has at least partly blunted the more expensive Omega navigation system; Omega's trump card is its virtual global coverage, compared with the regional Loran-C "chains," which blanket an area closer to their transmitters.

The next step in navigation will be complete "flight management," or computer direction of the navigation situation in all axes of flight. A computer can even equip the pilot to handle the fourth dimension: time. With such advanced systems, currently in the planning stages, an airplane can come within moments of touching down at its destination at a precise time set in advance of the flight. This development will be complete in the Boeing 727, which is still the dominant airplane in the world fleet.

Right now, the toughest sell for the avionics houses are fuel-saving computers developed when the cost of fuel was on an upward spiral. Airline customers are having trouble justifying their purchase in a period of relatively stable jet fuel prices, and with no threat of price increases in sight.

Make an appointment to see where the future of executive jets is headed.

The new Gulfstream IV is at Le Bourget for the Paris Air Show through June 9. And if you want to see what the next generation of the world's most experienced executive jet aircraft offers, make sure you see the Gulfstream IV.

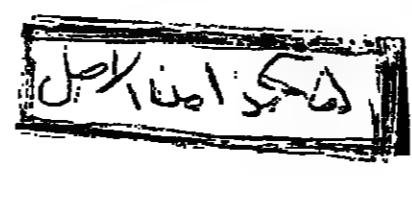
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May 31 through June 9, 1985. At Le Bourget Airport during Salons Internationaux de l'Aéronautique et de l'Espace.



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Smaller-Aircraft Industry Takes a Nose Dive

HENDERSONVILLE, North Carolina — General aviation, a category of smaller airplanes for personal and commercial use, is in the middle of a severe downturn. The casualties include everything from perennial classics to new entries: the Commander turboprop twin, once a big seller; the Aerostar, at one time the fastest piston-powered light airplane in the world; the Per-
fume, which was to have been the world's first single-engine business jet.

In its first quarter of 1985, general aviation experienced the worst decline in deliveries since 1946. One manufacturer now offers only half the product line it had a few years ago. And forecasts for the coming year promise little improvement.

The smallest general aviation airplanes are trainers powered by piston engines and the largest are heavy jets capable of spanning continents and oceans. And although the airplanes powered by turboprops and turboprops have managed to sell at a rate sufficient for survival, the global downturn in sales of general aviation aircraft that has now dragged on for almost five years has even made its impact felt in the heavy ranks. The sales of used planes now overshadow the once brisk activity in sales of new machines.

The chairman of Cessna, Russell Meyer, recently told financial analysts that turbine aircraft, once responsible for 35 percent of his com-

pany's business, now account for 80 percent. Turbine-powered planes bring higher prices, which has enabled Cessna to minimize its drop in revenues despite the drastic reduction in units delivered.

In the early 1970s, despite the "oil shock" and recessionary forces that struck almost every other segment of aerospace, general aviation remained buoyant, setting sales records year after year and gaining a reputation as a business that was truly "recession-proof." Regarded as a cyclic industry, general aviation has weathered periodic slowdowns before and bounced back on schedule. What happened that time to create such gloom?

Most experts believe the causes center on economics. Some cite the rise in price of new airplanes at the same time that tax allowances, which had eased aircraft purchases, were threatened, creating a climate of uncertainty. In the early stages of the current downturn, the manufacturers pointed to psychological factors, primarily the feared effects of the recession. But as recently as mid-April, James Walsh, president of Beech Aircraft in Kansas, noted that uncertainty, this time over changes in tax regulations, had cost his company orders for 45 business airplanes with an estimated value of \$81 million.

Others note that the massive production of the boom times, when sales of 10,000 airplanes by members of the U.S.-based General Avi-

ation Manufacturers Association was considered a slow year, may have created a pool of relatively young airframes that could theoretically satisfy the buyers for many years. The association's current forecast calls for production this year of only 2,438 units worth between \$1.8 billion and \$1.9 billion

— and that may not be enough to sustain the entire industry in its present form.

Market strength in areas such as Southeast Asia, said its exports are half of what they once were. (The company is currently in talks with China concerning possible joint production of some of its utility airplanes.)

Some limited sales to military and government customers have helped to bridge the loss of civilian sales at Learjet, which leased a version of its Model 35 to the U.S. Air Force, and Cessna, which delivered a trainer version of its Citation jet to the navy and supplied sensor planes to the Customs Service. Gulfstream Aerospace also dipped into government markets, with a V/STOL transport for the air force.

The Canadian and West German governments recently bought Can-

ada's Challenger business jets, and the French maritime patrol has new Dassault Gardian jets. The United States manufactures most of the world's supply of general aviation airplanes, with a single ex-

ception: the business jet. Aircraft designed for executive transport are built by Canada, Britain, France, Israel and Japan, making this business truly international.

The U.S. aircraft manufacturers complain that their overseas

competitors enjoy government sup-

port that is denied to them, but

makers of engines, electronics and

systems are more cautious: Their

products are installed on most air-

craft manufactured outside the

United States.

A downturn of such unprece-

dented depth and duration has had

profound effects on the manufac-

turing companies and the execu-

tives who lead them. Beech Aircraft

was acquired by Raytheon just be-

fore the sales of airplanes began to

tumble, and Beech has slowed down some of its development pro-

grams. In February 1984, Lear Siegler acquired Piper Aircraft and almost immediately began to con-

solidate its facilities to meet a dra-

matically reduced forecast of only

600 units for 1985, basically un-

changed from 1984.

In announcing the figure, Robert Wyma, Lear Siegler vice president in charge of Piper, said, "It doesn't appear that the market is going to come back as quickly as everyone would like it to, and it will probably never come back as strong as it did in the past."

Most industry managers are now

beginning to think the change may

be permanent: that general aviation

manufacturers face a future of slow, essentially flat, growth. All

the companies have scaled back in

size, cutting plant, equipment and

manpower. The process of invento-

ry reduction has finally begun to

work by midyear. In March, Lear

jet resumed limited production of

its civil Model 35/36 after a total

shutdown of civil-aircraft produc-

tion that began in September 1984.

In May, it resumed production of

the larger Model 55. But both pro-

duction rates are low.

One theory says that buyers are

waiting for next-generation air-

planes: Beech's Starship and the

Gates-Fiaggio GP-180 — both

high-performance turboprops. An-

other theory says "pent-up de-

mand" will rescue the industry in

the near future. But the general-

aviation manufacturers, burned in

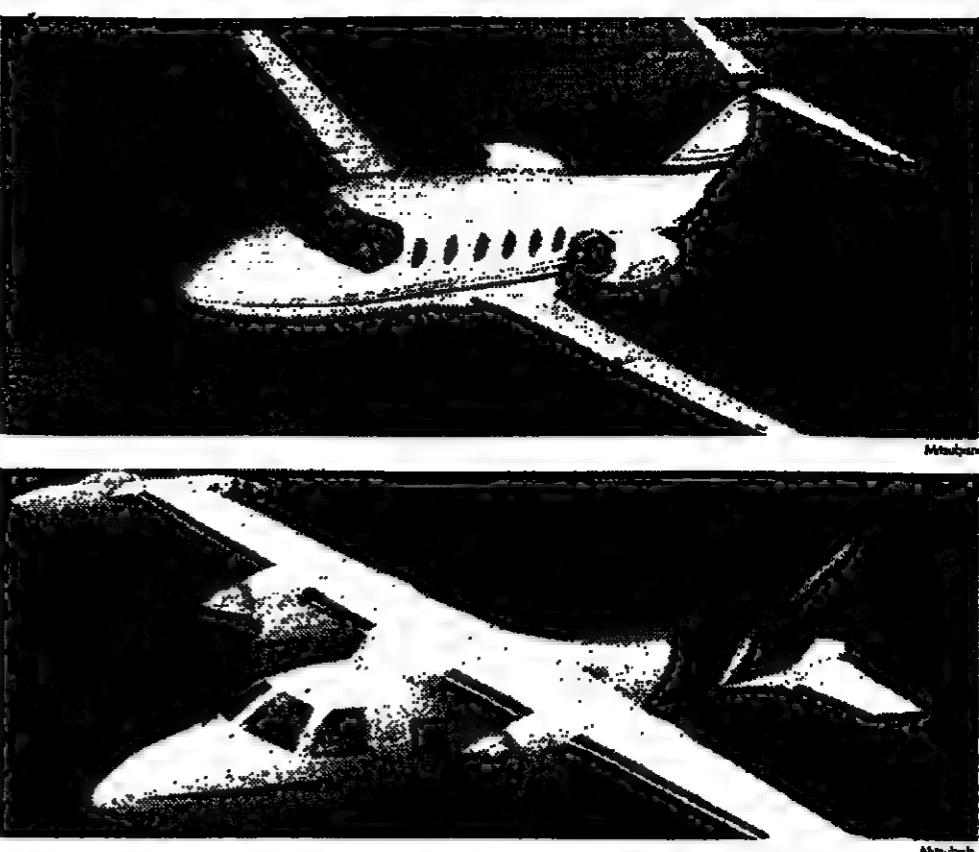
the past by such predictions, are

ready to stay lean and concen-

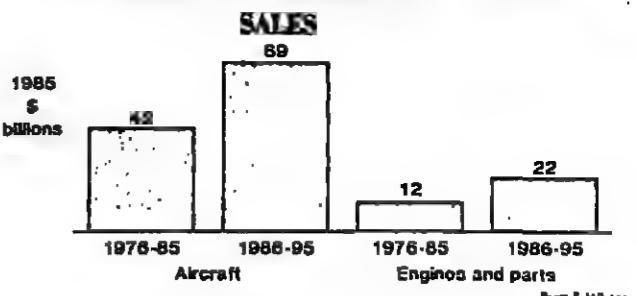
trate on surviving over the long

haul.

— GEORGE C. LARSON



General Aviation Growth



Highlights of High Technology. MBB, German Partner in International Programs at the 36th Paris Air Show.

The Super King Air 300 model from Beechcraft, above, and the Brockway 1900C airliner, below.

Helicopter Sales in Downdraft

(Continued From Page 19)

sh, the Italian Agusta firm and Britain's Westland Helicopters, and many have commented that the company established its own toughest competitors.

"Yes, we really got the world helicopter market going with our original licensing agreements," said the former Sikorsky director of public relations, Robert G.H. Cartell 34, "but with what are now 20-year-old designs. Helicopter technology is a very complex thing, and in a market that already has had many people in it, you want to play up with somebody rather than compete with them."

Today, Sikorsky is forming international research-and-development partnerships with foreign aerospace firms rather than supplying existing engineering. Sikorsky guards its position as the technological center of each project yet at the same time allies itself with overseas companies that can both contribute to Sikorsky's objectives and, in return for jobs, aid in the opening of their own domestic markets.

"There are some revolutions coming in helicopter design, mainly in the areas of speed, flight-control improvements and composite structures, and what we're saying overseas is, 'This is a two-way street; get with us and you can share in this market and these revolutions,'" Mr. Carroll said.

Sikorsky's most important high-technology project is the preparation of its prototype for the U.S. Army LHX competition, which could provide the winner with a contract for 5,000 to more than 6,000 new-generation utility, scout and attack aircraft and could well be the biggest single aircraft buy ever made by the military.

Sikorsky has flight-tested a helicopter with an airframe made entirely of Kevlar and carbon-fiber composites, and the company feels it is the industry leader in this vital field. It is likely that the LHX will be largely made of composites.

A tough LHX competitor will be Hughes Helicopters, which is allied with McDonnell Douglas and has a lucrative contract to manufacture the U.S. Army's AH-64 Apache attack helicopter. "That's a big program with a lot of international possibilities," said Mr. Mack of Hughes. "A number of countries need a second-generation attack helicopter, and there is keen interest in the Apache, especially in Israel and Saudi Arabia."

Mr. Mack said that largely because Hughes is part of a military airframe company with a very strong overseas marketing organization, "we are moving from being a neophyte to being a very effective international marketer."

Bell Helicopters has been finding it difficult to sell overseas in the face of a strong U.S. dollar. "It's a very competitive market," Mr. Reich said, "and it's getting to the point where everyone is looking for co-production or offsets, some kind of deal where they get a piece of the action in return for the dollars they have to spend over here."

Bell has also been put slightly off balance by the recent announcement that its parent conglomerate, Textron, has put the profitable helicopter company up for sale, in order to help raise the \$1 billion it needs to cover its purchase of a fellow conglomerate, Avco, last December.

Bell lost out on the China sale to

Sikorsky, but the company is de-

signed to be setting up a coopera-

tive program with the government of Canada, which wants to establish a domestic helicopter industry. A Canadian Bell manufacturing and office facility is scheduled to open this October in Quebec.

"We're providing a new family of light-twin helicopters that will be manufactured in Canada," Mr. Reich said, "and there will be follow-on models with increasing Canadian content, eventually to be completely designed as well as manufactured in Canada." The third in that line, the Bell Model 440, "will be virtually an all-composite aircraft," he said.

Bell, with a line of somewhat smaller helicopters than Sikorsky can offer, seems to be having slightly better luck in the civil market. The executive market is good," Mr. Reich said. "It's coming back quite well, and so is the government-agency market, anything from local police up to federal regulatory agencies, which accounted for about 20 percent of our commercial sales in the U.S. last year. . . . It's the dedicated petroleum-support aircraft that haven't gotten back to where they should be."

Nor has Bell ignored foreign markets, having recently completed delivery of two dozen Cobras to Pakistan with another batch currently being built for Jordan. Still, sales are soft. "I'd say anything over four or five helicopters is a pretty large sale. The ability of people to get financing, the strength of the dollar . . . money just isn't available," Mr. Reich said. "Helicopters are pretty expensive, and it's the same old story: They're buying four or five when they might have been buying 10 or 20 under different circumstances."

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NYSE Most Actives						Dow Jones Averages						NYSE Index						Wednesday's NYSE Closing						AMEX Diaries						NASDAQ Index						AMEX Most Actives					
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NYSE Diaries	1200	1200	1200	1200	1200	1200						100	100	100	100																										

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The serial numbers of bonds drawn by lot for redemption on July 1, 1985, are as follows:

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BUSINESS ROUNDUP

Austria's Voest, Japan's Oki To Set up Joint Chip Venture

Reuters

VIENNA — Voest-Alpine AG, the state-owned steel, engineering and electronics group, and Oki Electric Industry Co. Ltd. of Japan signed an agreement Wednesday to invest \$285 million in a joint venture to manufacture large-scale integrated circuits in Austria.

Oki will have 51 percent and Voest 49 percent of the yet unnamed company, to be based in Graz in southern Austria.

The investment will be made in three phases, the companies said.

The first, taking \$16 million, will start immediately and continue until production begins in the middle of next year, according to Voest's chairman, Herbert Apfalter.

By the end of the third phase, in the early 1990s, the new company is expected to have annual sales of about 4 billion schillings (\$868 million), he said.

The company will start with a share capital of 40 million schillings, rising to 400 million at the end of the third phase.

Mr. Apfalter said the Austrian government will provide aid equivalent to 55 percent of Voest's investment, which will be channeled through a new leasing subsidiary of Voest that will build and equip the plant and lease it to the jointly owned company.

Voest's chairman said the venture is part of his company's strategy of diversifying from steel and engineering. Last year, Voest won a \$500 million Deutsche mark (\$160 million) order from IBM Deutschland GmbH, a subsidiary of International Business Machines Corp., to produce multilayer circuit boards.

Voest, through Austria Mikro-systems International GesmbH, already is producing semiconductors at Graz in a joint venture with American Microsystems Inc. of Santa Clara, California.

Yoshio Matsuda, a senior managing director of Oki, said the agreement with Voest met his company's need to set up production facilities in Europe. Oki signed a contract last July with France's state-owned Thomson-CSF to make metal oxide semiconductor gate arrays that can be used by both companies.

SAS Reports Profit Increase

Reuters

STOCKHOLM — Scandinavian Airlines System reported Wednesday that profits had increased in the first half of the year but said there would be no improvement in yearly results because of strikes in Sweden and Denmark.

Profit before appropriations and taxes rose 11.5 percent to 174 million kronor (\$19.4 million) in the six months to the end of March, from 156 million kronor in the comparable 1983-84 period. Jan Carlzon, managing director, said yearly profits would be little changed from 568 million kronor.

All commercial flights to and from Sweden were grounded for 18 days by a civil servants' strike in May. SAS, owned by Norway, Denmark and Sweden, is seeking \$30 million in compensation from the Swedish government. Flights were also disrupted in March and April by a three-week strike in Denmark.

It was not immediately clear how the new cuts will be achieved, although Mr. Besse reportedly has decided against dismissals. Union leaders may oppose the cuts, but the government is expected to approve Mr. Besse's plan if the same

Renault Plans 8,000 New Layoffs

By Axel Krause

International Herald Tribune

PARIS — In an effort to reduce its record losses, Renault, France's state-owned automaker, plans to cut an additional 8,000 jobs in 1986, reducing the work force in France to 80,000, sources close to the company said Wednesday.

The company has already begun

eliminating about 10,000 of its 98,000 jobs, a task that will be completed by the end of this year. The planned cuts for next year will be presented to unions on June 17 as part of a restructuring plan by Georges Besse, Renault's chairman.

Company sources said that virtually all the cuts so far have the full backing of the government, because they have come through early retirements, voluntary resignations and financing the return of African and North African immigrant workers to their native countries.

It was not immediately clear how the new cuts will be achieved, although Mr. Besse reportedly has decided against dismissals. Union leaders may oppose the cuts, but the government is expected to approve Mr. Besse's plan if the same

approach to layoffs is followed, according to the sources.

"In general, if the same approach is followed, we will approve," a government official said of the new layoffs Wednesday. He emphasized that laying off workers through early retirements, for example, does not add to unemployment, now 10 percent of the work force in France, and rising.

Prime Minister Laurent Fabius, in a recent interview with the International Herald Tribune, said that growing levels of unemployment in France "is the most difficult part of our restructuring program."

Renault, which lost 12.5 billion francs (\$1.3 billion) last year, is seeking to become competitive with other West European and U.S. car manufacturers. To reach that goal, the company estimates it must increase productivity by at least 40 percent.

At a meeting on Tuesday, the board also discussed ways to refinance the group over the next few years, which could involve fresh capital from the government, low-interest loans from nationalized banks and what a company state-

ment described as "complementary sources for liquidity."

Some auto industry analysts have estimated that Renault may require about 45 billion francs in financing between 1985 and 1991. There is also speculation that Mr. Besse may be forced to sell ailing divisions and plants, and possibly its 46.4-percent holding in American Motors Corp., the fifth largest U.S. automaker.

A company spokesman on Wednesday emphasized that Renault has no current plans to withdraw from the United States, and that talks between AMC and union officials were scheduled for June 3.

AMC has announced it will close its last remaining car assembly plant in Kenosha, Wisconsin, while the government of Quebec province has expressed its interest in attracting an AMC plant or assemblage subcontracting to Quebec.

Brown Shoe Co. in St. Louis, a large shoe wholesaler, importer and retailer, had to cut back on its own shoe production as a result of import competition and retail price cutting.

"Our retail arm had a reasonably good year," said Richard Schomaker, president of Brown Shoe.

But he added: "They are a large user of imports. They have to be."

Retailers had a tough year, too.

An Industry Down at the Heel

(Continued from Page 15)

Despite the increase in total shoe sales, retailers overestimated the strength of the economy. Consumers bought new shoes but not as many as anticipated. At the end of 1984, footwear makers had 216 percent more in finished inventory than they did in 1980, according to Kurt Landen Associates.

Even the healthiest sectors of the shoe business failed to perform as expected. Athletic shoes became the strongest footwear category with a 10-percent sales gain. But many American shoemakers have abandoned the industry because shoe designs are so labor-intensive that they could no longer compete.

Not even running shoes could

keep up with their impressive performance of previous years. Once

accounting for 25 percent of the athletic footwear market, running shoes dropped to 17 percent last year.

German Cost of Living Increases 0.2% in May

Reuters

WIESBADEN, West Germany

— The cost of living in West Germany has risen 0.2 percent in May to stand 2.7 percent higher than in May 1984, according to provisional figures released by the federal statistics office Wednesday.

In April the index, based on

1980, also rose 0.2 percent from March for an increase of 2.5 percent compared with April 1984.

The statistics office said Wednesday that the final figures for May are due in about 10 days.

Stocks Avoid a Stampede

(Continued from Page 15)

tion "How long until we get to 1,400?" in this week's commentary on stocks. The shortest 100-point move in the Dow at each of its centennial levels, from 1,100 to 1,200, took two months and two days to achieve, he pointed out.

The longest was the 26 years it took to rise from 300 to 400. The last 100-point advance took two years, he noted.

Bert Dohmen-Ramirez, editor of the Wellington Letter, writes: "People's memories are short. They don't remember the enthusiasm during the bull markets of the 1960s. The stock market was the only topic of conversation at cocktail parties. People quit their jobs to speculate full time. Being a broker was glamorous."

"I expect great euphoria at the next important bull market top. When taxi drivers, doormen and bellboys are giving hot stock tips, then it's time to head for the exits. We are nowhere near that."

However, Stanley Berg, technical market analyst at Tucker Anthony, is standing out there lonely

PRI/TECH

PRIVATE AMERICAN TECHNOLOGY S.A.

Société anonyme d'investissement
Siège social: Luxembourg - 20 boulevard Emmanuel Servais
R.C. Luxembourg B. 20.566

Messieurs les actionnaires sont informés du fait que l'assemblée générale extraordinaire de la société qui a été tenue le 29 avril 1985 à 15:00 n'a pu débiter, faute de quorum.

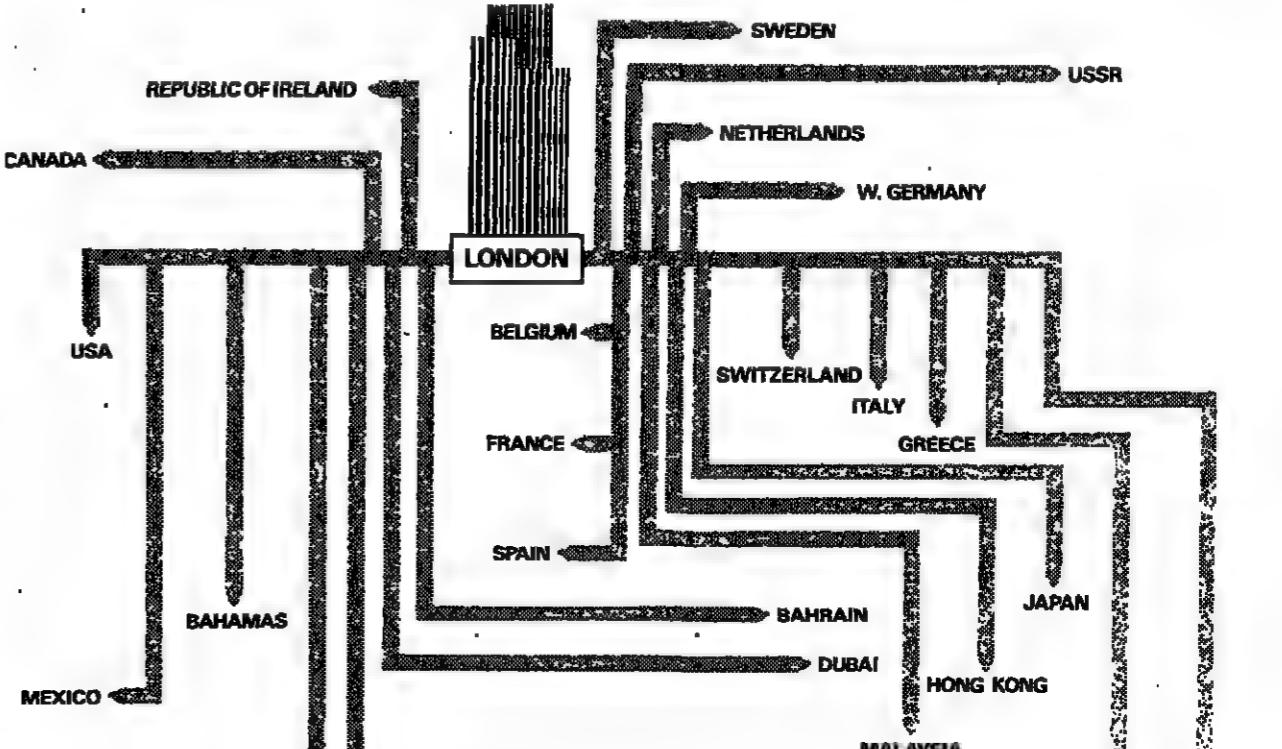
En conséquence, une nouvelle assemblée générale extraordinaire, avec le même ordre du jour, est convoquée pour le 18 juin à 15:00, qui délibérera, quelque soit le nombre d'actions représentées.

Lors de l'assemblée générale extraordinaire, toute action donne droit à un vote.

Tout actionnaire peut voter par mandataire.

Afin de participer à ces assemblées, les propriétaires d'actions au porteur devront déposer leurs actions cinq jours ouvrables avant l'assemblée au siège social de PRI/TECH ou auprès d'une banque acceptable par PRI/TECH.

Pour la société
BANQUE PRIVÉE S.A.
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Luxembourg



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National Westminster Bank Group

• In 1984 National Westminster Bank made record profits and strengthened its position as a leading International Financial Services Group with International Banking Division enhancing its reputation as a significant provider of finance to major corporate customers worldwide.

• The significance of the Bank's involvement in the international financial markets is illustrated by the size of our foreign currency asset base in the London Eurocurrency Markets. Currency assets now exceed the equivalent of £25 billion, a figure indicative of our standing amongst the world's largest financial institutions.

• In April 1984 we made the first ever issue

by a bank of undated subordinated debt to raise US\$500 million. This was followed in July by the rights issue which raised £236 million.

Financial Highlights 1984

	£m	£m
Capital and Reserves	2,649	193,907
Pre-Tax Profit	671	49,117
Total Assets	71,517	5,235,044
Rates operative at 31st December 1984.		

Copies of the Report and Accounts which include the Chairman's Statement, may be obtained from: The Secretary's Office, National Westminster Bank PLC 41 Lothbury, London EC2P 2BP, ENGLAND
Subsidiary Company: International Westminster Bank PLC Brussels Office: 2, Treurenberg
Regional Office for France: 18 Place Vendôme, Paris
Branches in Antwerp, Bordeaux, Lyons, Marseilles, Nantes and Nice

National Westminster
The Action Bank

AUSTRALIA TELEX 24491 BAHAMAS TELEX 20177 BELGIUM TELEX 21208 BRAZIL TELEX 301-2130051 CANADA TELEX 06-22572 FRANCE TELEX 210393 GREECE TELEX 212786 IRELAND TELEX 61672 ITALY TELEX 320663 JAPAN TELEX 262929 MALAYSIA TELEX 33044 MEXICO TELEX 017 71 788 NETHERLANDS TELEX 50641 NEW ZEALAND TELEX NZ 3903 SINGAPORE TELEX 28491 SPAIN TELEX 45094 SWEDEN & NORWAY TELEX 15050 SWITZERLAND TELEX 812186 UK TELEX 885361 USA TELEX 233563 USSR TELEX 412520

All these securities having been sold, this announcement appears as a matter of record only.

**The Royal Bank
of Scotland
Group plc**

Issue of up to

£200,000,000 Floating Rate Notes 2005

of which £100,000,000 has been issued as the
Initial Tranche

S. G. Warburg & Co. Ltd.

Bank of Tokyo International Limited

Baring Brothers & Co., Limited

Credit Suisse First Boston Limited

Merrill Lynch Capital Markets

Samuel Montagu & Co. Limited

Morgan Stanley International

Orion Royal Bank Limited

Sanwa International Limited

Williams & Glyn's Bank plc

Charterhouse Japhet plc

Banque Nationale de Paris

Crédit Commercial de France

Kidder, Peabody International Limited

Mitsubishi Finance International Limited

Morgan Grenfell & Co. Limited

Nomura International Limited

The Royal Bank of Scotland plc

J. Henry Schroder Wag & Co. Limited

Yamaichi International (Europe) Limited

Wednesday's **AMEX** Closing

Tables include the nationwide prices up to the closing on Wall Street and do not reflect late trades elsewhere. *Via The Associated Press.*

**New Issue
May 30, 1985**

This advertisement appears
as a matter of record only.

KINGDOM OF SWEDEN

DM 1,500,000,000
Floating Rate Bearer Notes due 1997



Deutsche Bank Aktiengesellschaft	
Banque Nationale de Paris Societe Anonyme	Commerzbank Aktiengesellschaft
Dresdner Bank Aktiengesellschaft	Merrill Lynch International & Co. International Corporation
Orion Royal Bank Limited	Salomon Brothers International Limited
Algemene Bank Nederland N.V. N.V.	Westdeutsche Landesbank Girozentrale
Bank of Tokyo International Limited	Amro International Limited
Bayerische Landesbank Girozentrale	Bankers Trust International Limited
Citicorp International Bank Limited	Creditanstalt-Bankverein
Enskilda Securities Skandinaviska Enskilda Limited	Goldman Sachs International Corp.
Kidder, Peabody International Limited	Mitsubishi Finance International Limited
Morgan Grenfell & Co. Limited	Morgan Stanley International
Post- och Kreditbank, PKbanken	Svenska Handelsbanken
	S.G. Warburg & Co. Ltd.

INTERNATIONAL HERALD TRIBUNE, THURSDAY, MAY 30, 1985

AMEX Highs-Low

May

DGZ in 1984: **Continued Success in Wholesale Banking**

Deutsche Girozentrale - Deutsche Kommunalbank - (DGZ) achieved good results for the year 1984. Total assets rose by DM 1.3 billion to DM 30.6 billion, representing a growth rate of 4.6%. Owing largely to an ongoing improvement in net interest income, net profit grew by 12.7% to DM 26.5 million.

Deutsche Girozentrale - Deutsche Kommunalbank - (DGZ) achieved good results for the year 1984. Total assets rose by DM 1.3 billion to DM 30.6 billion, representing a growth rate of 4.6%. Owing largely to an ongoing improvement in net interest income, net profit grew by 12.7% to DM 26.5 million.

DGZ continued to enhance its position in international wholesale banking, with syndicated international lending and Eurofinancing transactions reaching record levels.

In Luxembourg, the Bank's full-service branch and wholly-owned subsidiary, both of which specialize in Eurofinancing, again performed well in 1984.

Financial Highlights 1984 (DM million)

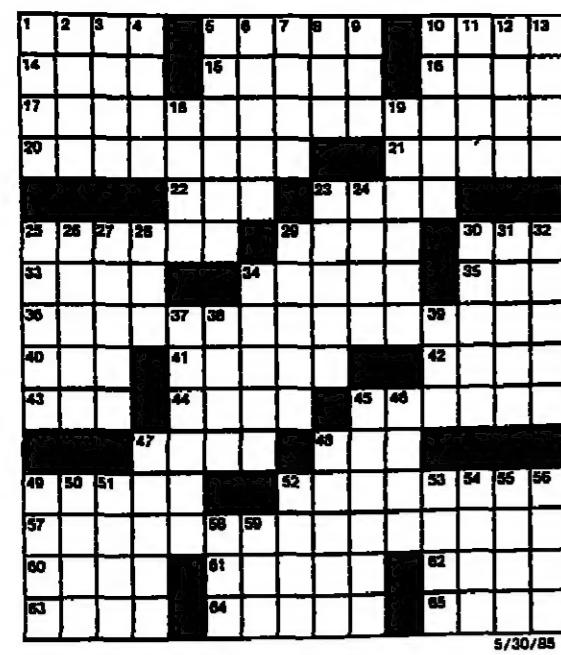
1983

Total Assets	30,607	29,272
Due from Banks	9,621	9,881
Debentures and Bonds	5,291	4,688
Receivables from Non-Bank Clients	14,330	13,323
Fixed Assets	131	139
Deposits by Banks	8,754	9,613
Deposits by Non-Bank Clients	1,378	1,015
Own Debentures in Circulation	18,700	16,990
Capital and Published Reserves	560	505
Net Interest and Commission Income	191	185
Personnel and Operating Expenses	48	42
Taxes	81	64
Net Profit	27	24



Deutsche Girozentrale • Deutsche Kommunalbank

**Taunusanlage 10
6000 Frankfurt am Main 1
Tel.: (69) 26 93-0
Telex: 4 14 168**



ACROSS

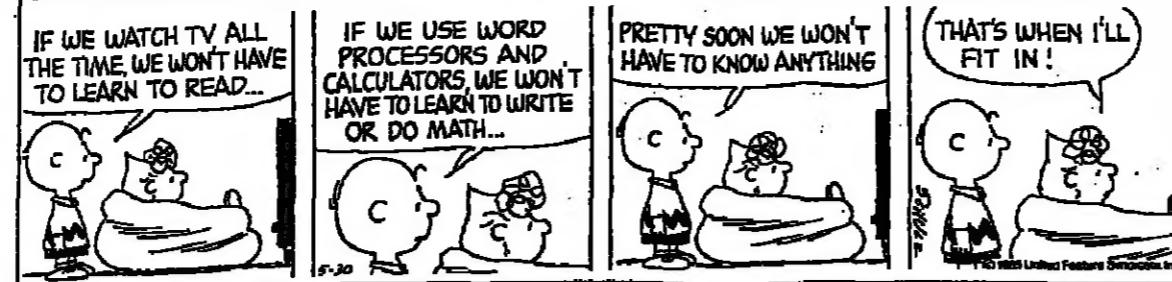
- 1 Dwell on a subject
- 5 Motive
- 10 Goren triumph
- 14 Rye topping
- 15 Range party in Venezuela
- 16 Haifa dance
- 17 Court-jesters areas
- 20 Green minerals
- 21 Block of gold
- 22 Thrice, in prescriptions
- 23 Brewers' dried flowers
- 25 Folk song
- 26 Hunting gear
- 29 Kindled
- 33 Dies
- 34 "Blue ___," 1977 hit tune
- 35 Suffix with serpent
- 36 Deflates, so to speak
- 40 Valie
- 41 Great White Way sights
- 42 Judah's second son
- 43 Snug retreat
- 44 Indian prince
- 45 Heathers
- 47 Confident
- 48 Highlander's bonnet
- 49 Columned walkways
- 52 Calls to account
- 53 Two-footed

DOWN

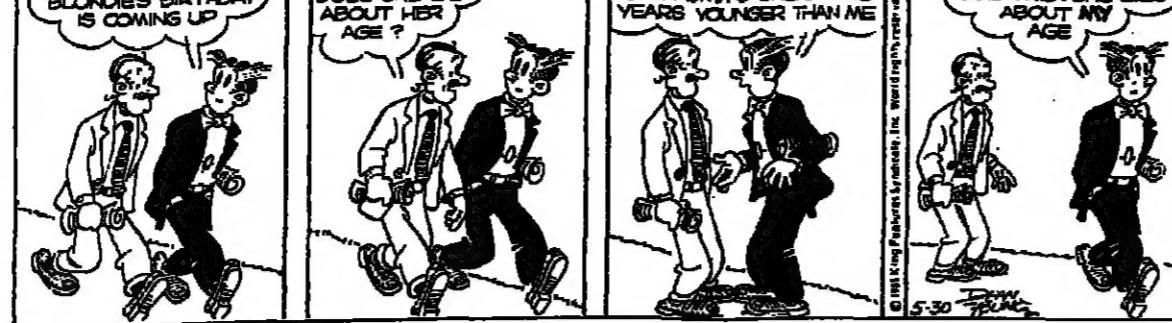
- 1 Sewing-machine man
- 2 " ___ or eye, we hardly call": Pope
- 3 Guido—baroque painter
- 4 Little lake
- 5 Titled
- 6 Anagram for range
- 7 Japanese plants
- 8 Discrete: Abbr.
- 9 Easterly
- 10 Tibiae
- 11 Pelican State legislator
- 12 Jason's craft
- 13 Spar
- 16 Wee quantity
- 18 Shakes a leg, in Soho
- 23 Helen or Isaac
- 24 Some native Nebraskans
- 52 Vexed state
- 53 Sch. for future Parsons
- 59 Woman soldier

© New York Times, edited by Eugene Maleska.

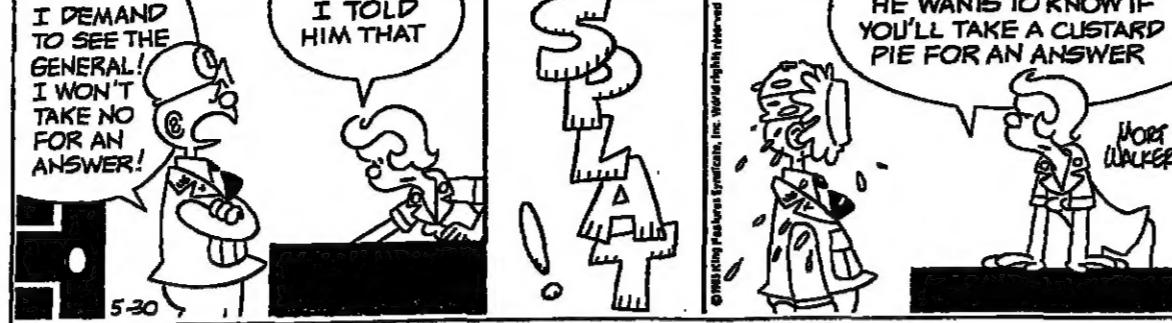
PEANUTS



BLONDIE



BEETLE BAILEY



ANDY CAPP



WIZARD of ID

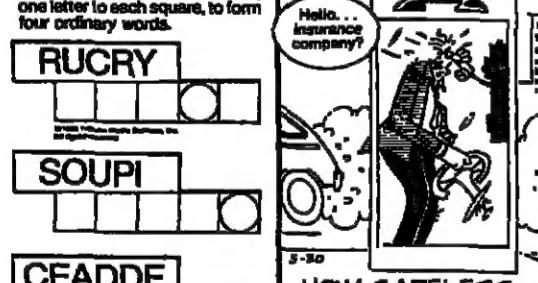


DENNIS THE MENACE



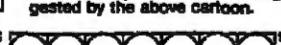
JUMBLE THAT SCRABBLE WORD GAME by Henri Arnold and Bob Lee

Unscramble these four jumbles, one letter to each square, to form four ordinary words.



HOW CARELESS DRIVERS FREQUENTLY END UP.

Now arrange the circled letters to form the surprise answer, as suggested by the above cartoon.

Print answer here: 

(Answers tomorrow)

Yesterday's Jumble: CHIME GLAND FALLEN BEAVER

Answer: Jealousy sets in with the arrival of this—A RIVAL

WEATHER

EUROPE

ASIA

AFRICA

LATIN AMERICA

NORTH AMERICA

MIDDLE EAST

OCEANIA

CL-Cloudy; fo-foamy; h-hail; o-overcast; pe-pesky; clw-cloudy; r-rain;

THIS DAY'S FORECAST: CHANNEL 5000, FRANKFURT: Cloudy with rain, Temp. 10-16 (64-70). LONDON: Partly cloudy, Temp. 10-16 (64-70). MADRID: Cloudy, Temp. 22-23 (72-75). NEW YORK: Partly cloudy, Temp. 21-22 (70-72). PARIS: Partly cloudy, Temp. 15 (65-70). ROME: Partly cloudy, Temp. 15 (65-70). TOKYO: Partly cloudy, Temp. 18-19 (64-70). SINGAPORE: Stormy, Temp. 32-33 (89-91). ZURICH: BANGKOK: Stormy, Temp. 32-34 (89-91). HONG KONG: Cloudy, Temp. 21-22 (70-72). KUALA LUMPUR: Partly cloudy, Temp. 21-22 (70-72). PATTAYA: Partly cloudy, Temp. 21-22 (70-72). SINGAPORE: Stormy, Temp. 32-33 (89-91). TOKYO: Partly cloudy, Temp. 18-19 (64-70).

World Stock Markets

Via Agence France-Presse May 29

Closing prices in local currencies unless otherwise indicated.

Amsterdam

	Class	Prev.		Class	Prev.	
ARM	Class Prev.	402 441.12	Hospital	225 225.42	Hospital Steel	2042 2025.25
ACF Holding		108 102.21	Hirsch	7902 7920.75	Hirsch	2042 2025.25
AKZO		107.89 107.70	Kalt + Söls	2425 2425.75	Kalt + Söls	2042 2025.25
AMET		8.05	Karsfeld	2023.50 2023.50	Karsfeld	2042 2025.25
AÖfen Rubber		7.05	Krecker H-D	255 255.75	Krecker H-D	2042 2025.25
BVG		91.20 91.70	Linde	442 442.75	Linde	2042 2025.25
Caterpillar, T		112.50 112.50	MAN	164 164.75	MAN	2042 2025.25
Elsevier-NDU		112.50 112.50	MAN	164 164.75	MAN	2042 2025.25
Old Brocades		12.50 12.50	Mitsubishi	104.50 104.50	Mitsubishi	2042 2025.25
Hess		12.50 12.50	Pirelli	325 325.75	Pirelli	2042 2025.25
KLM		39 39.50	Porsche	125 125.75	Porsche	2042 2025.25
Net Nederl.		64.40 64.40	PWA	172 172.75	PWA	2042 2025.25
Novo Nordisk		12.50 12.50	Rheinmetall	312 312.75	Rheinmetall	2042 2025.25
Oci Vonder G		22.50 22.50	Schering	447 447.75	Schering	2042 2025.25
Philips		52.50 52.50	Siemens	152 152.75	Siemens	2042 2025.25
Repsol		74.60 74.40	St. Gobain	152 152.75	St. Gobain	2042 2025.25
Rolmex		49.10 49.10	Vito	78.20 78.20	Vito	2042 2025.25
Royal Dutch		172.50 172.50	Volkswagenwerk	242 242.75	Volkswagenwerk	2042 2025.25
Unilever		342.50 342.50	Westerbeek	200 200.75	Westerbeek	2042 2025.25
VAN M		205 205.00	West Holding	970 970.75	West Holding	2042 2025.25
VNU		205 205.00	Commodity Stock Index	1128.70	Commodity Stock Index	1128.70
VNM		205 205.00	Previous: 1136.50		Previous: 1136.50	

Brussels

	Class	Prev.		Class	Prev.	
ARM	Class Prev.	402 441.12	Hospital	225 225.42	Hospital Steel	2042 2025.25
ACF Holding		108 102.21	Hirsch	7902 7920.75	Hirsch	2042 2025.25
AKZO		107.89 107.70	Kalt + Söls	2425 2425.75	Kalt + Söls	2042 2025.25
AMET		8.05	Karsfeld	2023.50 2023.50	Karsfeld	2042 2025.25
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BVG		91.20 91.70	Linde	442 442.75	Linde	2042 2025.25
Caterpillar, T		112.50 112.50	MAN	164 164.75	MAN	2042 2025.25
Elsevier-NDU		112.50 112.50	Mitsubishi	104.50 104.50	Mitsubishi	2042 2025.25
Old Brocades		12.50 12.50	Pirelli	325 325.75	Pirelli	2042 2025.25
Hess		12.50 12.50	Rheinmetall	312 312.75	Rheinmetall	2042 2025.25
KLM		39 39.50	Schering	447 447.75	Schering	2042 2025.25
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Novo Nordisk		12.50 12.50	Vito	78.20 78.20	Vito	2042 2025.25
Oci Vonder G		22.50 22.50	Volkswagenwerk	242 242.75	Volkswagenwerk	2042 2025.25
Philips		52.50 52.50	Westerbeek	200 200.75	Westerbeek	2042 2025.25
Repsol		49.10 49.10	West Holding	970 970.75	West Holding	2042 2025.25
Royal Dutch		172.50 172.50	Commodity Stock Index	1128.70	Commodity Stock Index	1128.70
Unilever		342.50 342.50	Previous: 1136.50		Previous: 1136.50	
VAN M		205 205.00				
VNM		205 205.00				
VNU		205 205.00				
VZN		205 205.00				
Westerbeek		205 205.00				
West Holding		970 970.75				
Commodity Stock Index		1128.70				
Previous: 1136.50						

Frankfurt

	Class	Prev.		Class	Prev.
AEG-Telefunken	125.50 125.75	Hirsch	125 125.75	Hirsch	125 125.75
Allianz Vers	126 126.25	Hospital	125 125.75	Hospital	125 125.75
Amoco	218.00 218.25	Hospital	125 125.75	Hospital	125 125.75
BAF	218.50 218.75	Hospital	125 125.75	Hospital	125 125.75
Centrum	125 125.75	Hospital	125 125.75	Hospital	125 125.

SPORTS

Sukova Upset; Mandlikova, McEnroe Win

Compiled by Our Staff From Dispatches

PARIS — Fifth-seeded Helena Sukova of Czechoslovakia was upset Wednesday, while countrywoman Hana Mandlikova, the No. 3 women's seed, bounced back from the brink of defeat in the second round of French Open tennis championships.

Also beaten was the No. 6 women's seed, American Zina Garrison, 7-6, 2-6, 13-11, by South African veteran Roslyn Fairbank.

Sukova, 20, won the first set, 6-2, against Christiane Jolissaint of Switzerland before losing the next two — 6-3, 6-0. Jolissaint is ranked

The left-handed Burdin twice

was a point away from taking a 5-2

lead in the final set after Mandlikova had squared the match at one set all. But the Czech saved the first

point with a smash and Burdin squandered the second by hitting a forehand into the net.

Mandlikova, who won the singles title here four years ago, moved into a 5-4 lead but the drama at Roland Garros Stadium continued as she lost four match points after holding a 40-0 lead on Burdin's serve. Burdin, ranked 31st worldwide, evened the set at 5-5 before Mandlikova wrapped up the match.

Mandlikova admitted she had played less than steadily. "I expected a tough match, but not that tough," she added. "She played well. She played a very good tactical match."

Mandlikova said she had worked hard before the tournament and the unexpectedly hard-fought opening round had increased her confidence in her conditioning, although her fitness still needed work.

"I didn't play my best tennis today, but I'm in good physical shape and in good fighting spirit."

No. 4 seed Mats Wilander made certain West German Boris Becker would not accomplish what the Swede pulled off three years ago when he eliminated the 17-year-old, 6-3, 6-2, 6-1, in the second round.

Wilander, 20, won the French Open in 1982 by upsetting established players with regularity; on Tuesday, Becker had beaten American Vitas Gerulaitis.

Frenchman Yannick Noah, who won the singles title here two years ago, continued his comeback with a stunning 6-1, 6-1, 6-4 victory over Dutchman Michiel Schapers.

Tomas Smid, the men's No. 13

seed, dropped a set but stayed on course for a possible quarterfinal clash with Noah by beating Robert Arguello of Argentina, 6-4, 3-6, 6-1, 6-4.

Also advancing was No. 5 seed Andres Gomez of Ecuador, 6-2, 6-1, 6-3, over Swede Kent Carlsson.

Spaniard Emilio Sanchez, a "lucky loser" who replaced the injured Romanian Ilie Nastase in this two-week tournament, moved into the third round as he downed Hubert van Beekel of the Netherlands 6-1, 6-2, 6-4. No. 12 seed Henrik Sundstrom of Sweden defeated American Marc Flur, 6-1, 2-6, 6-4, 6-2.

Chris Evert Lloyd kept pace with her main rival, Navratilova, moving into the third round by stopping fellow American Lisa Bonder, 7-5, 6-3.

Navratilova won her second-round match on Tuesday. Frenchwoman Catherine Tanvier beat American Kim Sands 6-4, 6-4, to advance to a third-round meeting with Navratilova.

Meanwhile, No. 4 seed Manuela Maleeva of Bulgaria beat Switzerland's Paola Dellese-Jauch, 6-1, 6-2, and 16th-seeded American Pam Shashel was upset by Natalie Tuziat of France, 6-7, 6-7, 6-2. Two years ago, Tuziat was not ranked among the top 10 women in France.

In other second-round women's matches, Gabriela Sabatini, the 15-year-old Argentinian and No. 14 seed, was a comfortable 6-0, 6-2 winner over Penny Bang of the United States, and eighth-seeded Carling Bassett of Canada was a 6-3, 6-3 victor over Jennifer Mündel of South Africa. (AP, UP)

No. 5 seed Helena Sukova... Upset in the second round.

Perez's Hot Bat Helps Reds Overtake Cubs

Compiled by Our Staff From Dispatches

CINCINNATI — Suddenly a hard party is standing between Pete Rose and Ty Cobb. Tony Perez, starting at first base in place of Rose, drove in four runs with a

double in the seventh as the Reds rallied from six- and five-run deficits to end a three-game losing streak.

Trailing by 6-0, Cincinnati sent 11 men to the plate in the fourth and scored five runs. The first seven batters reached safely off newly-acquired free agent Larry Gura. The big blow was Perez's 37th career home run, which gave him 1,602 runs batted in lifetime. It was the fourth straight game in which he has homered.

Roy Cey tripled in two runs in the ninth as the Cubs widened to a 10-5 lead, but the Reds again sent 11 men to bat in the bottom of the inning, when Gary Redus hit a two-run home run and Cesar Cedeno drove in three more with a base-loaded double. Cedeno scored on Wayne Krenchick's single.

Cincinnati broke an 11-11 deadlock with two runs in the seventh. Redus singled leading off, stole second and scored on Dave Concepcion's single. After Concepcion's second, Perez doubled him home.

For many years Perez, 43, has been one of baseball's premier power hitters. Coming off the bench this year, he is 10-for-20, with six walks, a double, four homers and 13 RBIs. "I can't swing the bat any better," he said. "I can't be fooled by anything. Do I look 43? That's only age — it's only numbers."

Perez 3, Padres 5

In Atlanta, Willie McGee drove in three runs and Jack Clark had four hits as St. Louis overwhelmed the Braves with a season-high 19-hit attack.

Blue Jays 6, White Sox 1

In the American League, in Chicago, Ernie Whitt drove in two runs, one of them with a homer that ignited a four-run seventh, as Toronto won a franchise-record eighth straight game and handed the White Sox their seventh consecutive loss.

Brewers 3, Indians 2

In Milwaukee, Rollie Fingers retired all five batters he faced after coming on with one out in the eighth and ran his all-time leading record for saves to 331 as the Brewers edged Cleveland.

Rangers 6, Royals 1

In Kansas City, Missouri, Bert Hooton, hampered by injuries in the last few seasons, pitched his first complete game since June 19, 1983 — when he was with the Los Angeles Dodgers — in pacing Texas as past the Royals. (UPI)

Spend a Buck to Skip Belmont Stakes

NEW YORK (AP) — Kentucky Derby winner Spend a Buck, who earned \$2.6 million by winning Monday's Jersey Derby, will skip the June 8 Belmont Stakes to rest until late July. The colt passed up the May 18 Preakness, the second leg of racing's Triple Crown, to run in the Jersey Derby.

The Jersey Derby "was a tough race and he didn't have the easiest of trips," his owner, Dennis Diaz, said Tuesday. "He came through the race with nicks and cuts and bruises. He got bumped around pretty good. He showed the heart of a champion."

"Now we've got an opportunity to rest him, and I'm sure he'll come back better than ever," trainer Cam Gambolati said. He said the colt would have three weeks of light training and then start preparing for the Haskell Invitational at Monmouth Park in New Jersey on July 27 as a possible prep race for the Travers Stakes on Aug. 17 in Saratoga Springs, New York.

Crosby Tournament to Have New Site

SAN FRANCISCO (AP) — Kathryn Crosby said Tuesday that the Bing Crosby National Pro-Am, the charity golf tournament started by her husband Bing 44 years ago, will return in June 1986 at a new permanent site.

The Crosby family had controlled only the name.

In April, Crosby's widow cut the family's ties to the tournament, saying it. Her announcement came soon after the family turned down an offer from American Telephone & Telegraph Co. to co-sponsor the event.

Coach Loughey Fired by NBA Bulls

CHICAGO (AP) — Kevin Longhey, who this season coached the Chicago Bulls to their first National Basketball Association playoff appearance in four years, was fired late Tuesday. Chicago finished the season at 38-44 and lost in the first round of the playoffs to Milwaukee.

In a 10-year career, Loughey played for Detroit and the then-Baltimore Bullets before finishing with Philadelphia in 1972. He coached the 76ers late in 1972 but left in 1973 for the American Basketball Association, where he took the New York Nets to the championship.

He returned to the NBA when the leagues merged, and guided the Nets — who were shifted to New Jersey — to their first playoff berth in the 1978-1979 season. He became head coach of the Atlanta Hawks in 1981. Chicago was 65-99 during Loughey's two seasons at the helm.

Right now, baseball seems healthy. Certainly there is a concern about drug abuse in baseball, but it seems that baseball has humanely handled its problems in the past and that the fans trust the game and the way it's been handled; attendance records are repeated.

There are legitimate and deep fears about drug abuse and what it can lead to — inept play caused by the taking of drugs or the throwing of games for drug-gambler associates. The last time anyone was accused of throwing a game was 66 years ago. There has not been a shred of evidence that it has happened since, which doesn't mean it can't. Eternal vigilance, and not eternal urinalysis, has been the price that has kept the game clean.

Fehr understands that if the integrity of the game is jeopardized, the nice jobs and huge contracts of his rank-and-file would be jeopardized. But he says the vehicle used by the players' association to com-

plaint drug abuse has worked. Part of that process includes a committee made up of three nonaligned physicians to treat players who have been suspected of or have admitted to random drug testing.

Details of implementation were supposed to be available by the end of May, which is now, "No," said Edward Duro, general counsel to major-league baseball, "we don't have a precise date yet."

It is transparent that Ueberroth:

• Had no clear idea of how to implement the testing. The plan included everyone in major-league baseball — except the players, who have a separate agreement under a labor-management settlement.

• Was trying to swing the weight of public opinion against the players' association and provide a catalyst for its agreeing to random testing.

• Rushed to judgment because he feared information harmful to baseball's image was forthcoming from a grand jury investigation into drugs in Pittsburgh. He acted before he had to react. The grand jury still not completed its probe.

In industry and business at large, there are often pre-employment drug tests, but once someone comes on the job it comes down to as Tom Martin, a spokesman for IBM, said, "One of our basic tenets: respect for the individual." That is exactly what Don Fehr, executive director of the M.P.A., has said.

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Grant Fuhr, stopping Ron Sutter's penalty shot. (AP, UP)

Oilers 1 Victory Away From Retaining Title

Compiled by Our Staff From Dispatches

EDMONTON, Alberta — Aided by four power-play goals, two by Wayne Gretzky, and Grant Fuhr's save on only the third penalty shot in the history of the Stanley Cup finals, the Edmonton Oilers raced to a 3-2 victory over the Philadelphia Flyers Tuesday night.

The Oilers' 15th straight home-ice playoff victory — tying the mark set by Montreal from 1968 to 1971 — gave them a three-to-one lead in the four-of-seven game series. The Oilers can capture their second consecutive National Hockey League championship on Thursday night, if the Flyers win Thursday, the series will return to Philadelphia for a sixth game.

Gretzky pounced on a loose puck with 7:07 left in the second period to score his 15th goal of the playoffs and break a 3-3 tie. The Oilers had trailed, 3-1, in the opening period. Gretzky added the winners' fifth goal with 3:42 gone in the third period, connecting while Philadelphia's Ed Hosper was in the penalty box.

"We knew the Flyers would come out hard and, no question, they did," said Gretzky. "We probably should have been behind, 4-1 or 5-1, at one point. Grant made the save on the penalty shot and that was the turning point. Grant held us in there until we got going. One thing that has made us a good team is that when things aren't going right for us someone gives us a big lift like that."

With 8:47 gone in the first period, Fuhr made the big save by standing his ground as Ron Sutter attempted to score the first penalty-shot goal in a Stanley Cup final. It was the first penalty shot awarded in the cup round in 14 years and only the 14th in the history of the playoffs.

There have only been two other penalty shots in the finals: the last on May 16, 1971, when Frank Mahovlich of the Montreal Canadiens was turned away by Tony Esposito of the Chicago

Black Hawks. The first attempt saw Chicago's Virgil Johnson fail to beat Montreal's Bill Durnan on April 13, 1944.

"I just don't want to talk about it," said Sutter after the game.

His brother Rick, however, did talk. "He had the goalie beat, and he made the shot he wanted."

"He tried to slide it between my legs or over my glove," said Fuhr. "But he didn't lift it enough. But I think the play is slightly to the right."

STANLEY CUP FINALS

goalie's advantage anyway. All I have to do is stand there and wait for the shooter to commit himself."

The Flyers, however, came out of the period with a slight edge. They opened up the 3-1 lead by the 11:32 mark, scoring once at even strength, once on a power play and once while short-handed. The Oilers twice on power plays after going a dismal 10-for-65 on man-power advantages through the playoffs.

It was the Sutter brothers who started things rolling for the Flyers, combining for a goal only 44 seconds into the game. Fuhr made a superb save on Derrick Smith, but Ron Sutter retrieved the puck and tried to jam it in. The puck caromed off the post to Fuhr's left, struck Rick Sutter's skate and slid across the line. It was Rick Sutter's first career playoff goal.

It took the Oilers over four minutes to find their first crack at Peter Lindberg, but that shot slipped even at 1-1 and set yet another playoff mark for Paul Coffey.

Standing at the right point on a power play, Coffey put in a hard slap shot off Charlie Huddy's pass from the left point at 4:22. The goal was Coffey's 10th of the playoffs, one more than the mark for defensemen set by Bobby Orr in 1970 and tied by Brad Park in 1978.

After Todd Bergen gave the Flyers a 2-1 lead,

the momentum appeared headed toward Edmonton when, at 8:32, Doug Crossman was caught for holding Glenn Anderson. Crossman complained vehemently on the call and whacked the puck down the ice in disgust; referee Terry Fraser slapped him with another two-minute minor for unsportsmanlike conduct.

But during the four-minute Oiler advantage, Sutter was awarded the penalty shot and the Flyers scored a shorthanded goal to lift their lead to 3-1.

Fifteen seconds after Crossman went off, Sutter batted the puck away from Gretzky. Skating furiously, he broke down the slot ahead of Mark Messier, who hauled down the young center just as he let go a shot on Fuhr. Fraser blew the whistle immediately and pointed toward center ice, the gesture for a penalty shot at 8:47.

Sutter, gathering momentum from deep in the end, picked up the puck at center ice and rushed to within 10 feet of Fuhr before firing a forehand wrist shot. Fuhr dropped, extending his right leg, flashing out his glove hand and turning away the shot as the Coliseum crowd of 11,498 stood in a wild ovation.

Slightly less than three minutes later, with Crossman still watching from the box, Murray Craven and Derrick Smith combined for the short-handed goal.

Huddy fell at the right point and Smith raced uncheckered down the left wing. He centered the puck to Craven, who had beaten Coffey to the cre

ART BUCHWALD

A Military Sidecar Sore

WASHINGTON — The trouble in the Defense Department (and who says there is any trouble in the Defense Department?) is that as weapons become more sophisticated, take longer and longer to produce. Therefore, the person in the Pentagon who originally came up with the idea is no longer there, and the project has gone through dozens of teams and many different lives before it is ready for combat.

Take the SCM Mark 89. Back in the 1950s the U.S. Army wanted a scout car motor vehicle, which in effect was a motorcycle with a sidecar.

The idea for a new scout bike was thought up by Lieutenant Harold Doggett, who is now a retired general in Sarasota, Florida.

"Do you remember being the project officer on the SCMT?" I asked him on the phone.

He thought hard. "Seems to me I had something to do with it. The scout bikes from World War II were obsolete and I went to the Harley-Davidson people and asked them to come up with a design. When I left we were hassling over the price. They were asking \$500 for each one and I was trying to knock them down to \$450."

"Then you left before it got off the drawing boards?"

"Yes, I did. I turned it over to a Major Art Hammond, and that's the last I heard of it. I believe he's out in Arizona at Sun City."

I tracked Hammond down.

"Sir," I said. "I understand that



you were involved with an SCM scout motorcycle that the Army was building."

"That wasn't a motorcycle. The only SCM I remember was an \$8,000 four-wheel-drive semi-personnel carrier. I stayed with it for three years, and then I was transferred to Hawaii."

"You don't remember who took charge of the project after you?"

"Colonel Jeffries or Joffrey. Not too sure of the guy's name, but he wound up heading the Lockheed Defense Company that was going after the contract."

Jeffries was also retired when I found him on his boat in the Chesapeake Bay. He recalled the SCM well. "We never did go into production with the SCM because the Army decided instead of a semi-personnel vehicle it wanted an all-weather tank. So we tore up the plans and started from scratch. Then I retired from the service and Brigadier General Tommy Wuggenheimer headed the project team."

He was really hot on the SCM and had Congress convinced the Army couldn't do without it. Wuggenheimer insisted the SCM have radar on top of it and the capacity to float on water. We told them we could build it for \$500,000 each, and they were about to sign the order when Wuggenheimer was sent to Vietnam and replaced by Lieutenant General "Swede" Ruffles.

"Swede" was the top helicopter pilot in the Army and he decided the SCM would have to fly. So he brought in a helicopter company as a co-contractor, and we worked for 10 years trying to get the thing off the ground. We were up to \$2.5 million when Swede was relieved by General Archie Toland, an engineer, who not only wanted the SCM to carry airborne personnel, do the work of a tank and have the ability of a helicopter but also perform as a bulldozer. We said it could be done for \$10 million each."

"In all the years you worked on the SCM did anyone ever mention that it originally was supposed to be a scout bike with a sidecar to transport a lieutenant and his aide?"

Jeffries said, "What would the Army want with a motorcycle that could only transport two people?"

Frost Ruined '85 Champagne

Reuters

EPERNAY, France — The 1985 champagne harvest may be the worst in 50 years, owing to unusually severe winter and spring frosts, a spokesman for the Champagne Trade Association said Tuesday. About 25,000 of 62,000 acres (10,000 of 25,000 hectares) planted with vines in the Champagne area would produce far less than usual and in some cases no wine at all.

Laughing Cow and the Smile of Success

By Sandra Salzman
New York Times Service

NEW YORK — Sollemity is not a quality normally associated with the advertising business, but for years Joy Golden felt that her comic talents were stifled by demands to be serious about lipstick and mascara. So last year, when TBWA Advertising asked the copywriter to "do comedy" for one of its accounts — *Vache qui rit* or Laughing Cow cheese from France — she leaped at the chance. "I saw the intrinsic madness of someone going into a store and asking for a little round laughing cow in a red net bag," she said.

Thus was born a radio advertising campaign in which women — talking sometimes in a Bronx accent, a breezy Marilyn Monroe voice or in the style of a San Fernando Valley girl — try to enlighten people who fail to realize that the cow is actually cheese.

"I'll get you a little round laughing cow in a red net bag," Enid, in one commercial, offers her hungry husband. "I don't care if she's in lace with high heels, it is what I had in mind," he complains.

The campaign, introduced a year ago in New York, sent Laughing Cow's sales soaring by 60 percent, according to Frank Schmieders, president of the U.S. office of Fromagerie Bel, the manufacturer. This year, the company has increased its radio campaign budget to \$1.5 million.

As for Golden, a 55-year-old New Yorker, the campaign's success "changed my whole life," she said. Disc jockeys talked about the commercials, listeners phoned in to find out who wrote them, and the advertising industry showered them with prizes.

Soon, Golden, who had been freelancing since 1980, was besieged by requests from other advertisers. In February she formed her own company, Joy Radio, to write and produce comedy and jingle radio commercials. "They will all be funny," she said. "I don't want to do anything straight."

During her childhood, she learned comic timing by listening to the Jack Benny radio show and, a day after graduating from the University of Connecticut, she took a job in the stenographer



Marilyn K. Yee/The New York Times

pool at Batten, Barton, Durstine & Osborne, the agency for Benny's sponsor, Lucky Strike. She moved quickly into copywriting but worked for a number of accounts to which humor was anathema. "The cosmetics industry is very serious; it's like NASA," she said.

By the time TBWA assigned her the Laughing Cow account, she was ready "to do a little stick." She wrote a commercial in which a woman asks a supermarket clerk to suggest a snack.

"How about a laughing cow?" he says. "It won't fit on a cracker," she replies.

That commercial never ran, "but I knew, after that how to do it," Golden said. "There had to be a gag answer. There would always be someone innocent who said, 'It's too big, too fat, I can't bring it to school.' Once I had the format down, it was a snap."

When it came time to record the commercial, Lynn Lipton, an actress chosen to do the voice, suggested an ethnic style. "I said, 'Ethnic? How ethnic?'" Golden said. With a Greek-American boss at TBWA and a German-born client, she felt uneasy.

"Heavy ethnic," Lipton insisted.

And thus it is a "consummate" — some might say egregiously — New York voice that offers to bring a laughing cow to a hot-tub party ("If you're worried about sunburn, dump the red net bag and put the cow in a caftan," a friend suggests), to her daughter's Sweet 16 party ("All her friends were impressed except Heather Rubin who expected a real cow and brought a 'bale of alfalfa,'") and, to and as a snack, for her husband Stuart ("Then he ate all 10 minicheeses and said it was the best treat he ever had in bed. So I smacked him").

Golden has signed eight clients for whom she is in various stages of writing and producing radio commercials. She expects to earn an average of about \$20,000 for each job, a sum that includes her basic creative fee, plus residuals paid each time a commercial airs. She said she hopes to earn up to \$300,000 this year, a \$100,000 increase over the previous year.

As for Laughing Cow, the current campaign will end next month, with a new campaign scheduled to begin in September. Next year, Schmieders said, more cities may be added to the schedule. How well New York humor will play between the coasts, however, is unclear.

"I don't know what makes them laugh in Wisconsin," Golden admitted. "Is that the Midwest?"

PEOPLE

Thatcher: A Satirical Oil

An unfurling portrait of Prime Minister Margaret Thatcher, depicting her with buck teeth, squinting eyes and a haughty look, is one of 1,172 works in the summer show of paintings and sculptures at the Royal Academy of Arts in London, which opens Saturday. The portrait, "Welcome to Kuala Lumpur," by the British painter Rustin Spear, 74, shows Thatcher in the Malaysian capital with Prime Minister Mahathir bin Mohamad during her visit to the Far East earlier this year. The London Times commented that "less than fervent supporters" of the prime minister might chuckle at the painting, "in which her teeth figure rather more prominently than Saatchi and Saatchi might like."

Saatchi and Saatchi is the advertising firm that handles publicity for Thatcher's Conservative Party. Roger de Grey, the president of the Royal Academy of Arts, said: "This is satire. It's not supposed to be flattering."

Loneliness was the biggest concern of 18-year-old Tania Aebi as she began a solo voyage around the world in a sloop meant to serve as a form of higher education. After Aebi's family and friends kissed her goodbye, Tuesday, she tearfully pulled out of the South Street Seaport in New York in her 26-foot (8-meter) sloop, *Vanuatu*, which is Hindi for God of Water. The sloop was a present from Aebi's father, Ernst, 47, a graphic artist who lives in Soho in lower Manhattan, who gave it to her in lieu of a college education. He said that the \$40,000 vessel, bought in England, was "cheaper than a college education nowadays," and that his daughter was ready for the trip.

A Los Angeles judge dismissed a lawsuit brought by Frank Simeone, claiming Capitol Records authorized the distribution of low-quality recordings of his work and used his name to promote them without his consent. A lawyer for Capitol Records, Howard King, said Simeone's action was barred by the Statute of Limitations, under which such claims had to be made within four years of the alleged actions. Each of the purported actions occurred more than four years ago, King told Superior Court Judge Charles Jones. Jones agreed with Charles Jones, Jones agreed with

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